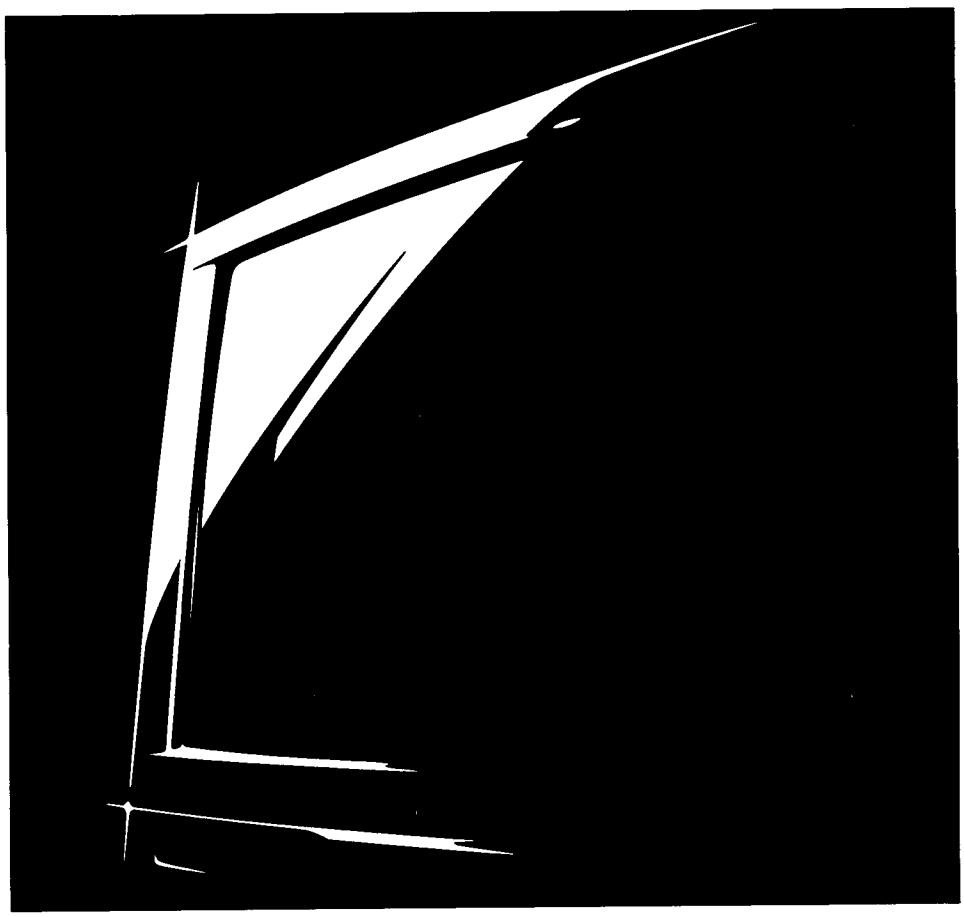
TOSHIBA

Color Television

OWNER'S MANUAL

CE32E15



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Dear Customer

Congratulations! You have purchased one of the finest Color TV's on the market!
This manual will help you use the many exciting and useful features to make your TV viewing more enjoyable than ever before.
Before operating your TV set, please read all these safety and operating instructions completely and then retain for future reference.

Customer's Record

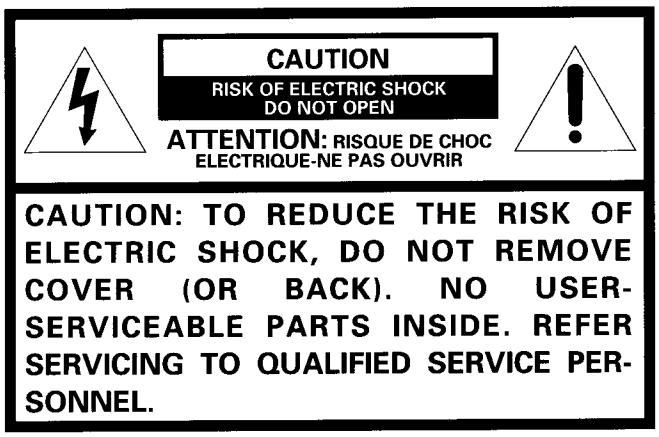
You will find the model number and serial number on the back of your TV set.
Record these numbers in the spaces provided below. Refer to them whenever you call upon your TOSHIBA dealer regarding this product.

Model Number _____

Serial Number _____

Safety Precautions

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
ATTENTION: RISQUE DE CHOC
ELECTRIQUE-NE PAS OUVRIR
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning symbol in the triangle tells you that the voltage inside this product may be strong enough to cause an electric shock. DO NOT TRY TO SERVICE THIS PRODUCT YOURSELF.

The exclamation point in the triangle tells you that important operating and maintenance instructions follow this symbol.

This TV set may be used only with TOSHIBA stand model ST3202. Use with other stands may result in instability causing possible injury.

CAUTIONS:
TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLET UNLESS THE PRONGS CAN BE FULLY INSERTED INTO THE OUTLET TO PREVENT ANY EXPOSURE OF THE PRONGS ON THE POLARIZED PLUG.

ATTENTION:
POUR PRÉVENIR LES CHOCS ÉLECTRIQUES, NE PAS UTILISER CETTE FICHE POLARISÉE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ÊTRE INSÉRÉS À FOND SANS EN LAISSER AUCUNE PARTIE À DÉCOUVERT.

Avoid displaying stationary images on your TV screen for extended periods of time. Stationary patterns generated by PIP display, computer displays, video games, stock market reports, etc. can become permanently engrained on the picture tube. This damage is not protected by your warranty as it is the result of misuse. Should you wish to use your TOSHIBA Television to display still images, it is always advisable to reduce brightness and contrast settings. Never leave a PIP display, computer display or video game display unattended.

NOTE TO CATV SYSTEM INSTALLER IN THE USA:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

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Installing Your TV Set

Where to install

Place the TV on the floor or on a sturdy platform. The mounting surface should be flat and steady.

Lighting

Do not place the TV in a room where direct lighting strikes the screen. Use soft and indirect lighting.

Air circulation

Place the TV far enough from the walls to allow proper ventilation. This will prevent the TV from overheating and avoid possible damage to the TV. Avoid dusty places too.

Power supply

Plug into an electrical outlet with standard household power (120 volt AC, 60Hz). Do not change the plug's safety prong. See the right column.

WARNING :

TO AVOID PERSONAL INJURY

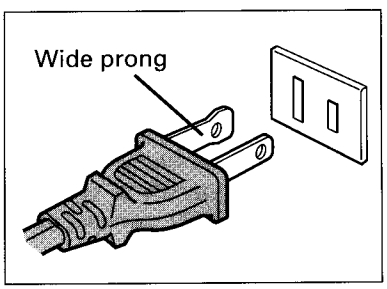
- Do not stand or climb on the TV.
- Do not put a VCR or any heavy object on top of the TV.

CAUTION :

As a safety feature, the plug has one prong wider than the other. It will fit only one way into a standard electrical outlet. If the plug will not fit into the outlet, try turning it around. If the plug will not fit either way, the outlet is probably old and non-standard.

You will need to have a new outlet installed by an electrician.

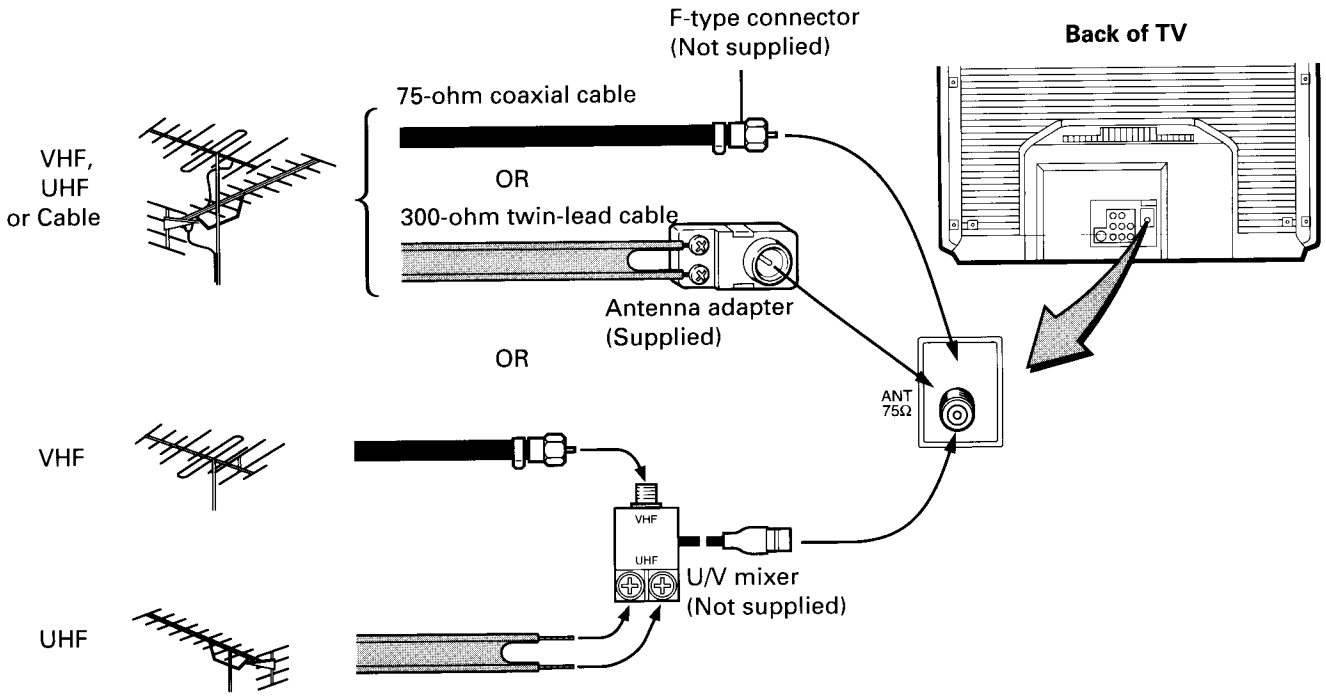
DO NOT CHANGE THE SAFETY FEATURE OF THE PLUG.



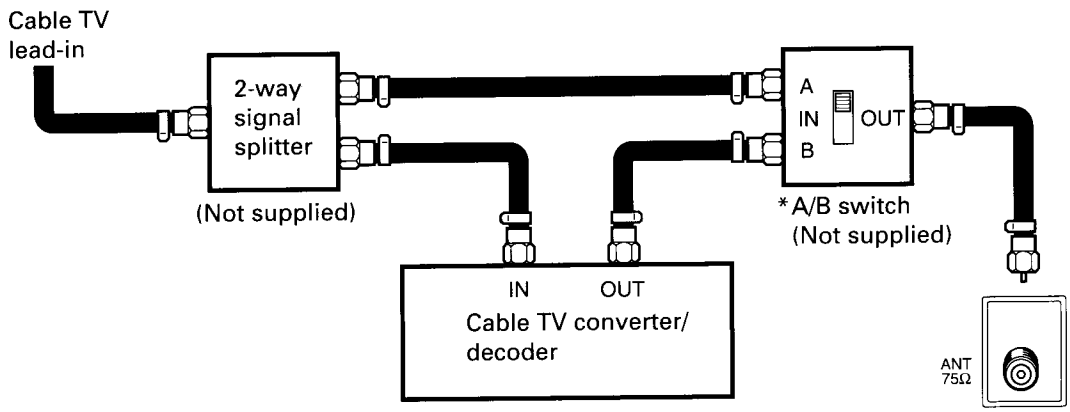
Antenna/Cable TV Connection

You can use either an indoor or outdoor antenna to receive VHF and/or UHF channels.
Channels 2 - 13 are VHF channels, and channels 14 - 69 are UHF channels.
We recommend using an outdoor antenna for better picture quality.
You can receive Cable TV by connecting a cable supplied by your local cable company.

Connecting an antenna or Cable without a decoder box



Connecting a Cable with a decoder box

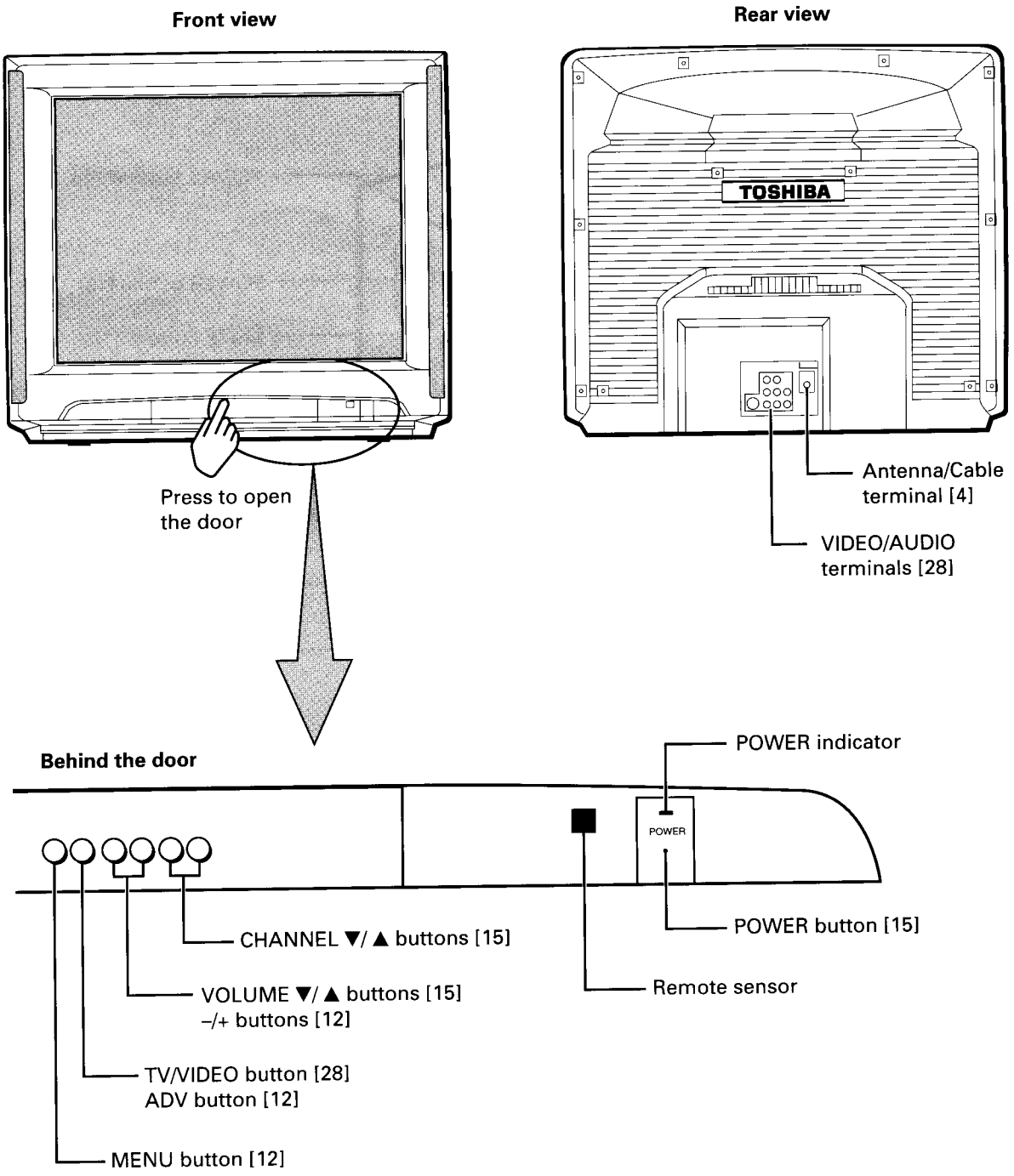


Notes:

* "A" position on the A/B switch allows you to select unscrambled channels using the TV's channel keys. "B" position allows you to select scrambled channels via the converter/decoder box using the converter's channel keys. Place your TV on channel 3 or 4 to match the converter's output channel.
- If you use a VCR, connect its antenna in/out between the decoder box and A/B switch.

Location of Controls (TV Set)

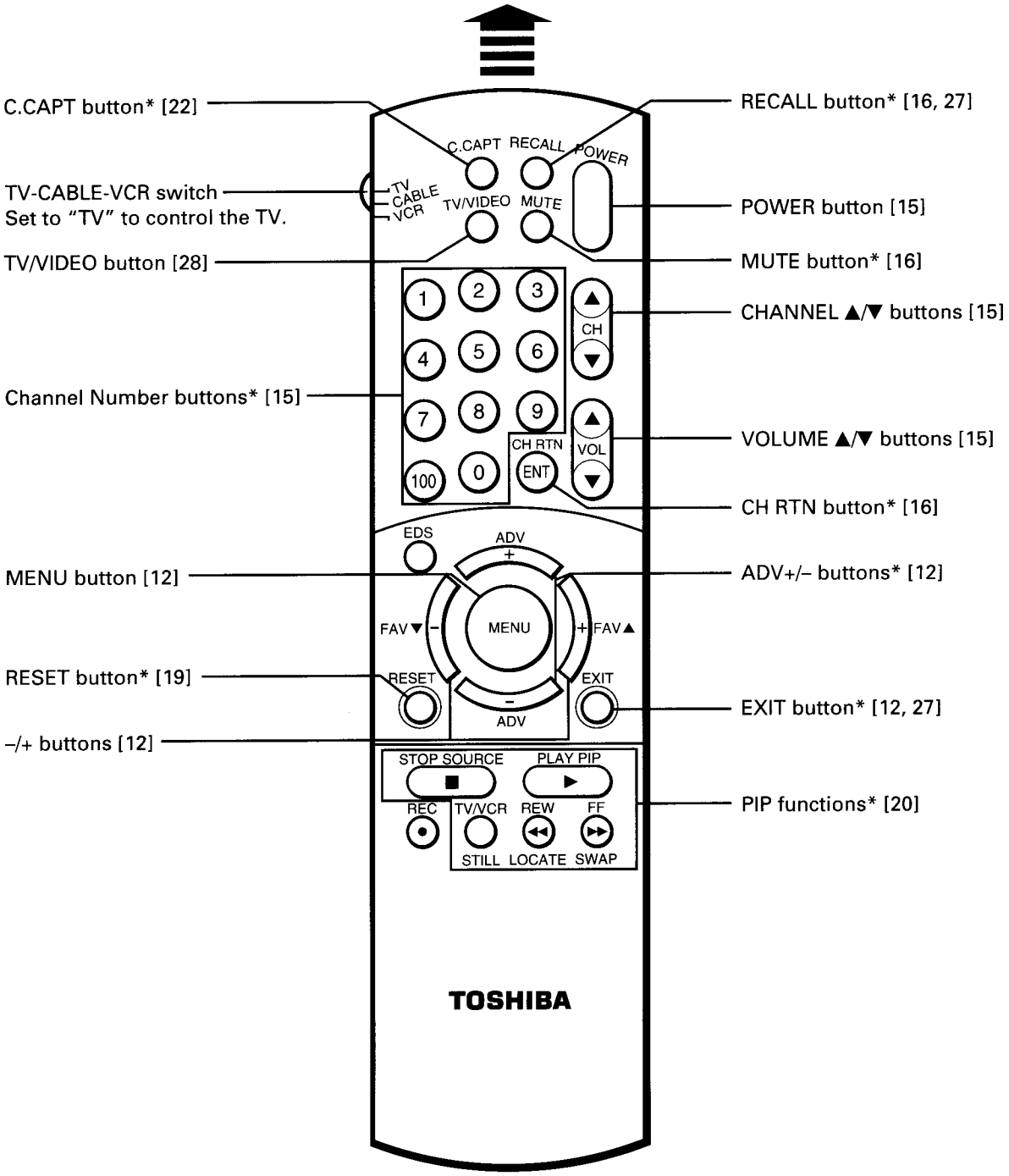
For the use of each control, refer to the pages in brackets.



Location of Controls (Remote Control)

Only the buttons that are used to operate the TV set are described here.
For details on the use of each control, refer to pages in brackets.

Aim at the remote sensor on the TV



*These functions do not have duplicate locations on the TV set. They can be controlled only with the Remote Control.

Note: The EDS button is not available for this model.
Favorite channel (FAV ▼ & FAV ▲) is not available for this model.

Before Using the Remote Control

Introductions

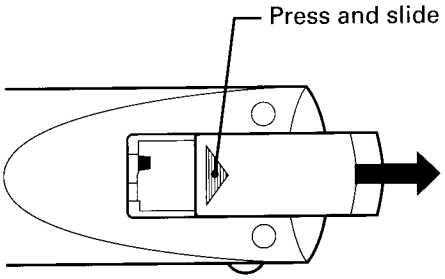
With this Remote Control, you can operate your TV and most models of remote-controlled VCR's and Cable TV converters even if they are different brands.
However, this Remote Control must be programmed to control other brands of VCR's and/or Converters. If you will be using your TV set with a TOSHIBA VCR, your remote has already been preprogrammed for you.

- Before attempting to operate your Remote Control, install the batteries according to the section "Installing and replacing batteries" shown below.
- For more detailed instructions, see the section "Programming the Remote Control" on page 9.

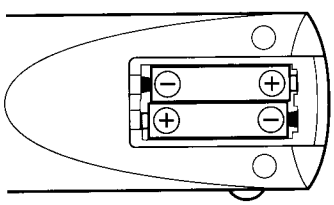
Notes:
- After installing new batteries, the Remote Control will set itself to the codes for TOSHIBA's TV and VCR. If you are using the Remote Control to operate equipment that uses different codes, it will have to be reprogrammed for those codes.
- This Remote Control may have functions not available on the original remote control.
- These functions may or may not operate your VCR or Cable TV Converter. Refer to the owner's manuals supplied with the equipment to see which functions are available.
- The remote control supplied with your VCR or Cable TV Converter may have keys not duplicated on this Remote Control. If these functions are desired, the original remote will have to be used.

Installing and replacing batteries

1 Place the Remote Control with the face down. Press down on the ridged area of the battery cover and slide it off.



2 Place two "AAA" size batteries, matching the + and – signs on each battery to the + and – signs of the battery compartment.



3 Replace the battery cover until the lock snaps.

CAUTION:
- Do not throw your batteries into a fire. Dispose of your batteries in a designated disposal area.
- Do not combine used old batteries with new ones.
- Do not mix battery types.

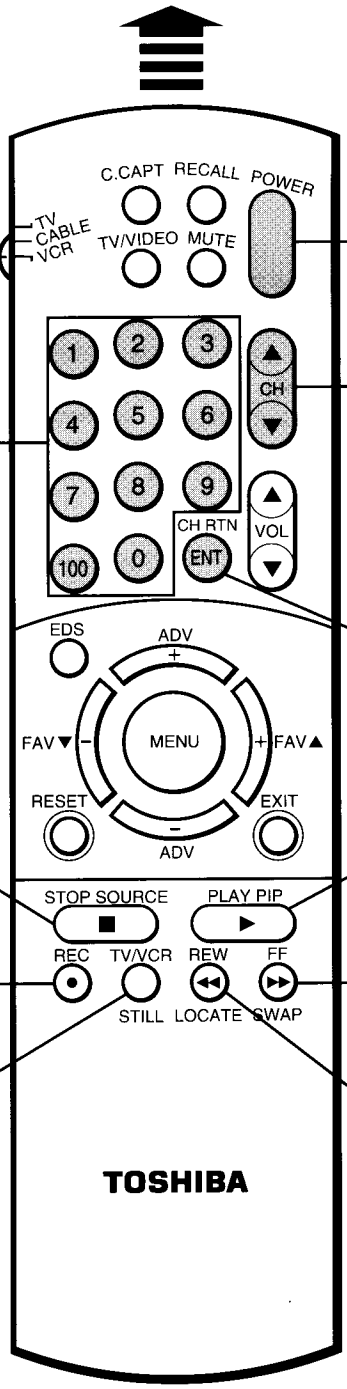
Tips for Best Operation

- For optimum performance, aim the Remote Control directly at the TV from a distance of no more than 16 ft (5m) and be sure there is no obstruction between the Remote Control and the TV.
- If your Remote Control does not always adjust the TV as you wish, you probably need to replace the batteries.
- Remove dead batteries immediately to prevent battery acid from leaking into the battery compartment.
- If you do not intend to use the Remote Control for a long period, remove the batteries.

Using the Remote with VCR or Cable TV Converter

- To control a TOSHIBA VCR, first set the TV-CABLE-VCR switch to "VCR" position. The buttons shown below will then control the VCR. The rest of the buttons operate the TV as usual.
  If you have another brand of VCR, you can probably program your Remote to control it.
  Details are on page 9.
- To control a cable TV converter, this Remote Control must be programmed to recognize the brand of your converter.
  See page 9.
  Set the TV-CABLE-VCR switch to "CABLE" position whenever you control the cable TV converter.

Aim at the VCR or cable TV converter



TV-CABLE-VCR switch
"CABLE" : To control cable TV converter
"VCR" : To control VCR

Channel number buttons
Press the numbers desired for direct access.

STOP button
Press to stop the tape.

REC button
Press to start recording.

TV/VCR button
Press to the TV mode to view one program while recording another program.

POWER button
Press the button to turn the VCR (or converter) on.
Press again to turn off.

CHANNEL ▲/▼ buttons
Press ▲ button to select next higher channel.
Press ▼ button to select next lower channel.

CH RTN button
See page 16.

PLAY button
Press to begin tape playback.

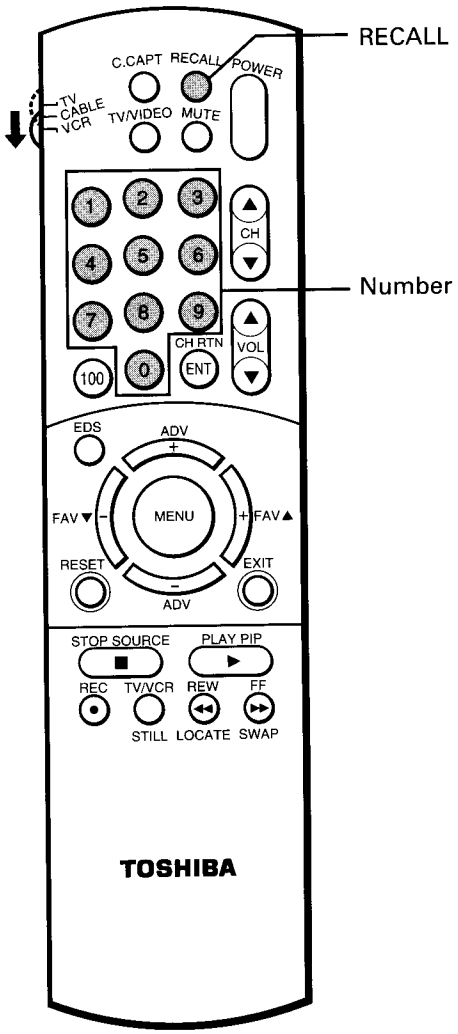
FF button
Press to rapidly advance the tape. In playback mode, press to view the picture moving rapidly in forward direction.

REW button
Press to rewind the tape.
In playback mode, press to view picture moving rapidly in reverse.

The shaded buttons can be used to control the cable TV converter.

Programming the Remote Control

- This Remote Control is preprogrammed to operate TOSHIBA VCR's.
- To use VCR's other than Toshiba models (or Cable converter), perform the following procedures before operating.



Controlling other brands of VCR's and cable TV converters

1 Refer to the ***"VCR code table"*** (or ***"Cable TV converter code table"***) on pages 10 and 11 to find the code number that corresponds to the brand name of your VCR (or your converter).

If more than one number is listed, try each one separately until you find the one that works.

2 Set the **TV-CABLE-VCR** switch to "VCR" (or "CABLE").

3 Hold down **RECALL** while pressing the **Number** buttons for the three digit code number for your brand of VCR (or converter).

4 Point the Remote Control at the VCR (or at the converter) and press POWER to test the code number.
- **If the right number was entered,** the VCR (or the converter) should turn on.
- **If the VCR (or the converter) does not respond to the Remote Control,** repeat steps 1 to 4 with another code number.

Notes:
- You have to reprogram the Remote Control when you change its batteries.
- Some newer VCR's are capable of working on either of two remote codes. These VCR's have a switch labeled "VCR1/VCR2". If your VCR has this kind of switch, and does not respond to all the code numbers for your VCR brand name, set the switch to another position ("VCR1" or "VCR2") and reprogram the Remote Control.

For future reference, write the code you used.

VCR CODE: _____

CABLE CODE: _____

Programming the Remote Control (Continued)

- In some rare cases, you may not be able to operate your non-Toshiba equipment with the supplied Remote Control. This is because your equipment may use a code that is not provided with this Remote Control. In this case, please use the equipment's own remote control.

VCR code table

BRAND NAME	CODE NUMBER
Adventura	019
Aiko	297
Aiwa	019
Akai	060,068,080,125, 261
Akiba	091
Alba	039,228,297,314
American High	054
Amstrad	019
Anam	181
Anitech	091
ASA	056,100
Asha	259
Asuka	056
Audiovox	056
Baird	019,123
Basic Line	039,091,297
Beaumark	259
Bell & Howell	123
Blaupunkt	053,181
Brandt	206
Broksonic	140,203,230,380
Bush	091,228,297
Calix	056
Canon	054
Capehart	039
Carver	100
CCE	091,297
CGE	019
Cimline	091
Citizen	056,297
Clatronic	039
Colt	091
Condor	039
Craig	056,066,091,259
Crown	091,297
Curtis Mathes	054,079
Cybernex	259
Daewoo	039,064,065,297
Dansai	091
Daytron	039
De Graff	061
Decca	019,100
Dual	060
Dumont	019,100,123,124
Dynatech	019
Elcatech	091
Electrohome	056
Electronic	019
Electrophonic	056
Emerex	051
Emerson	019,021,056,062, 080,087,140,203, 227,228,230,231, 313,314,380
ESC	297
Ferguson	060
Fidelity	019
Finlandia	100,123,129
Finlux	019,061,100,123, 124
Firstline	056,062,064,091, 228
Fisher	065,066,073,085, 123
Frontech	039
Fuji	052,054
Funai	019
Garrard	019
GE	054,079,084,221
GEC	100
General	071
Go Video	251,298
Goldstar	037,056,057
Goodmans	019,039,056,081, 091,297
Gradiente	019
Graetz	060,123
Granada	065,100,123
Grandin	019,056,091
Grundig	100
Harley Davidson	019
Harman/Kardon	057,094
Harwood	087,091
Hcm	091
Headquarter	065
HI-Q	066
Hinari	091,227
Hitachi	019,060,061,084, 124,254
Hypson	091
Imperial	019
Interfunk	100
ITT	060,065,123,125
ITV	056,297
JCL	054
Jensen	060
JVC	027,060,086
Kaisui	091
Kendo	125,228
Kenwood	057,060,065,086
KLH	091
Kodak	054,056
Korpel	091
Leyco	091
Lloyd	019
Loewe	056
Loewe Opta	100
Logik	091,259
Luxor	062,065,123,125
LXI	056
M-Electronic	019
Magnavox	019,054,058,100, 129,168
Magnin	259
Manesth	064,091
Marantz	054,057,081,100,
Marta	056
Masushita	054
Matsui	227,228,314
MEI	054
Memorex	019,054,056,058, 065,066,067,123, 259
Memphis	091
Metz	181
MGA	062,080
MGN Technology	259
Minolta	061,124
Mitsubishi	062,080,086,094, 100,192,233,261,
Motorola	054,067
MTC	019,259
Multitech	019,091
Murphy	019
NEC	057,059,060,069, 086
Neckermann	100
Nesco	091
Nikko	056
Noblex	259
Nokia	060,065,123,125, 259
Nordmende	060
Oceanic	019
Olympus	054
Optimus	056,067
Optonica	067,081
Orion	140,227,228,314
Osaki	019,056,091
Otto Versand	100
Palladium	056,091
Panasonic	054,096,115,181, 244
Penney	054,056,057,059, 061,073,259
Pentax	061,084,124
Perdio	019
Philco	054
Philips	054,081,100,129
Phonola	100
Pilot	056
Pioneer	086,100
Portland	039
Profitronic	259
Proline	019
Protec	091
Pulsar	058
Pye	100

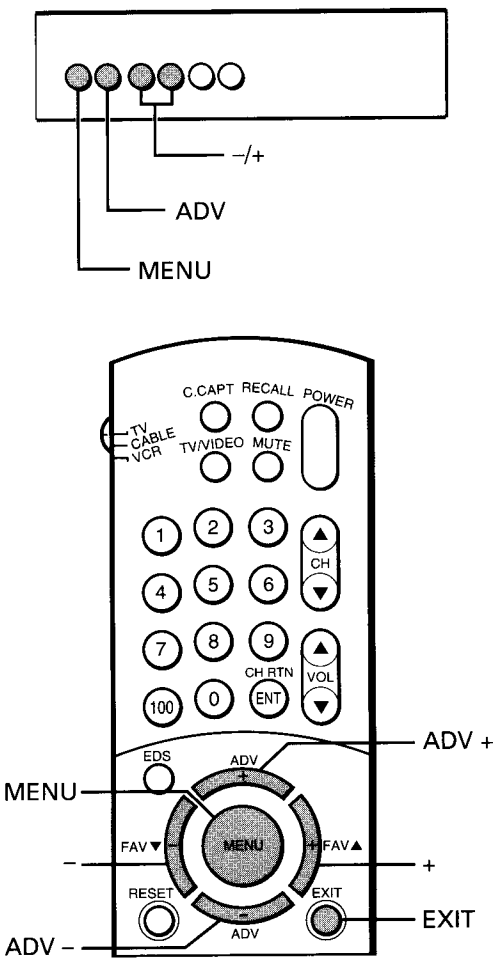
Quarter 065
Quartz 065
Quasar 054,096,115
Quelle 100
Radio Shack 019,056
Radiola 100
Radix 056
Randex 056
RCA 054,061,079,084, 096,115,124,125, 168,221
RCA Unified 079
Realistic 019,054,056,065, 066,067,081,085, 123,259
Rex 060
Ricoh 053
Roadstar 056,091,259,297
Runco 058
Saba 060
Saisho 227,228
Salora 062,065,125
Samsung 064,259
Sanky 058,067
Sansui 060,086
Sanyo 065,066,123,259
SBR 100
Schaub Lorenz 019,060
Schneider 019,091,100,129
Scott 062,064,140,203, 229,230,231
Sears 054,056,061,065, 066,073,085,123, 124
SEG 259
SEI 100
Seleco 060
Sentra 039
Sharp 067,081
Shintom 091
Shogun 259
Siemens 056,123
Silva 056
Singer 091
Sinudyne 100
Sontec 056
Sony 051,052,053,054
STS 061
Sunstar 019
Sylvania 019,054,062,100, 129
Symphonic 019
Tandy 019,123
Tashiko 019
Tatung 019,060,100
Teac 019,060
Technics 054,181
Teknika 019,054,056,071
Teleavia 060
Telefunken 060,206
Tenosal 091
Tensai 019
Thomson 060
Thorn 060,123
TMK 227,259
Toshiba 060,062,064,085, 229,231,385
Totevision 056,259
Triumph 227
Unitech 259
Universum 019,056,068,100, 125
Vector 064
Vector Research 057,059
Victor 027,060,086
Video Concepts 059,064,080
Videosonic 259
Wards 019,054,061,066, 067,081,091,168, 231,259
XR-1000 019,054,091
Yamaha 057,060
Yamishi 091
Yokan 091
Yoko 039,259
Zenith 052,053,058

Cable TV converter code table

BRAND NAME	CODE NUMBER
ABC	020,022,026,030, 032,033,036,066
Antronix	041
Archer	041,058,172
Belcor	075
Cable Star	075
Cabletenna	041
Cableview	041
Century	172
Citizen	172
Colour Voice	044,050
Comtronics	059,079
Contec	038
Eastern	021
Garrard	172
GC Electronics	035,075
Gemini	034,089
General Instrument	030
Hamlin	028,039,053,278, 292
Hitachi	030
Hytex	026
Jasco	172
Jerrold	022,030,031,033, 034,043,045,066, 295
Macom	052
Magnavox	046
Memorex	019
Movie Time	175
NSC	089,175
Oak	026,038,267
Panasonic	040,126
Paragon	019
Philips	044,046,047,048, 049,050,079,172
Pioneer	042,163
Popular Mechanics	419
Pulsar	019
PVP Stereo Visual Matrix	022
RCA	040
Regal	039,278,292
Regency	021
Rembrandt	030,089
Runco	019
Samsung	059,163
Scientific Atlanta	025,027,036,296 346
Signal	034,059
Signature	030
SL Marx	059
Sprucer	040
Standard Components	174
Starcom	022,034,066
Stargate	034,059
Starquest	034
STS	175
Sylvania	020
Teleview	059
Texscan	020
Tocom	031,032,078
Toshiba	019
Tusa	034
Unika	041,172
United Artists	026
United Cable	022
Universal	041,058,075,096 172,210
Viewstar	046,079,230
Zenith	019

Menu Function (General Instructions)

We suggest you familiarize yourself with the procedure before using the Menu function.
To adjust any TV feature, the use of the Menu function is required. The adjustments that can be made to the TV appear on the screen.

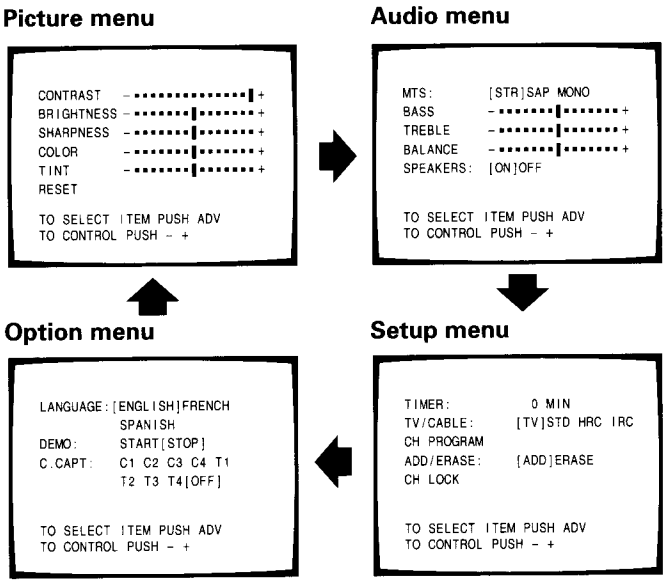


Notes:

- The ADV button on the TV will function as the TV/VIDEO button when no menu display is on the screen.
- The –/+ buttons on the TV will function as the VOLUME ▼/▲ buttons when no menu display is on the screen.

MENU button (on TV and on Remote)

Each time you press **MENU**, the Picture, Audio, Setup or Option menu on-screen display is selected in order, then press **ADV**.



ADV button (on TV and on Remote)

Use **ADV** after you have selected the on-screen menu you want to adjust with the MENU button.
Each time you press **ADV**, the function to be adjusted will be selected in order.

ADV + button..... from bottom to top
ADV, ADV – button ..... from top to bottom

The selected function will be displayed in magenta.

– /+ buttons (on TV and on Remote)

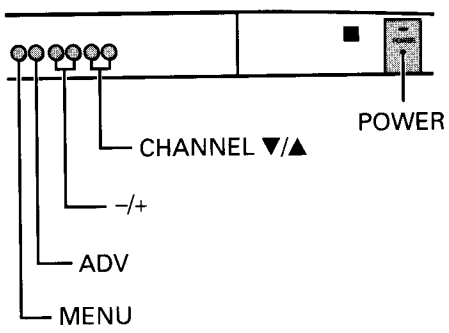
Use **– /+** to adjust the function you have selected with the **ADV** button.

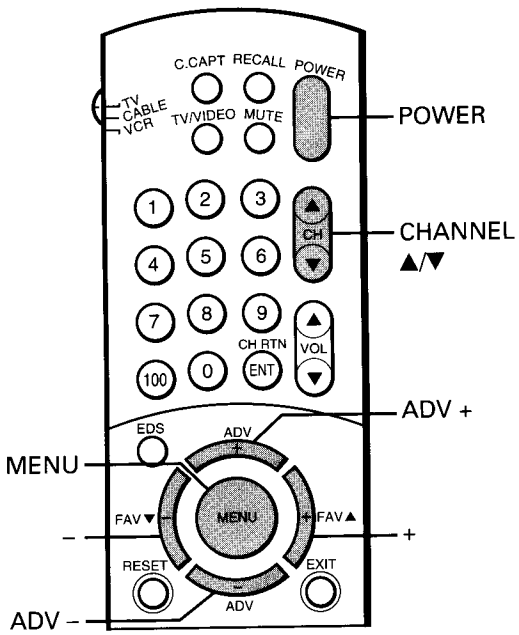
EXIT button (on Remote)

The above four menu displays will automatically disappear from the screen if no control has been operated for about 15 seconds.
If you want to clear the screen of all on-screen displays instantly, press **EXIT**.

Programming Channel Memory

The channel memory is the list of TV channel numbers your TV will stop on when you press the CHANNEL ▲ or ▼ button.
First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area.
If necessary, arrange the preset channels with the ADD/ERASE functions so that you can tune into only desired channels.





* This TV receives the following TV signals:

1. **TV**: TV broadcasts signals. (VHF channels 2 through 13 and UHF channels 14 through 69)
2. **STD** CABLE: Standard cable TV signals.
3. **HRC** CABLE: Harmonic Related Carrier cable TV signals.
4. **IRC** CABLE: Incremental Related Carrier cable TV signals.

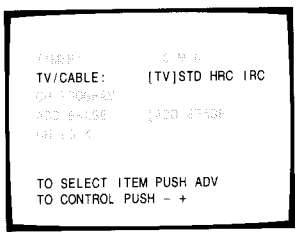
If you are not sure what CABLE system they are using, consult your local cable company.

TV/CABLE function

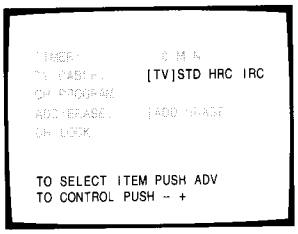
1 Press **POWER** to turn on the TV.

2 Press **MENU** repeatedly until the Setup menu is displayed on the screen.

3 Press **ADV** repeatedly until "TV/CABLE" is displayed in magenta.



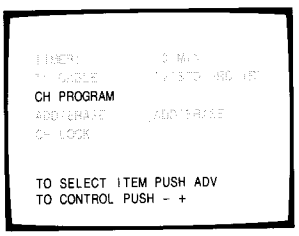
4 Press – or + until the mode that corresponds to your TV signal system is displayed in magenta.
Each time you press the button, the TV*, STD CABLE*, HRC CABLE* or IRC CABLE* mode will be selected in order.



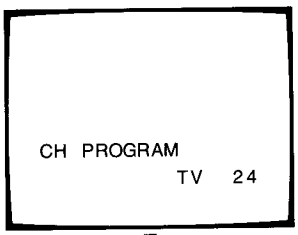
CH PROGRAM function

1 Press **MENU** repeatedly until the Setup menu is displayed on the screen.

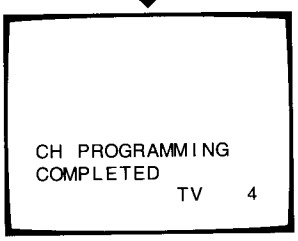
2 Press **ADV** repeatedly until "CH PROGRAM" is displayed in magenta.



3 Press – or + to start channel programming.
The TV will automatically cycle through all the TV or CABLE channels depending on the mode selected, and store active channels in the channel memory.

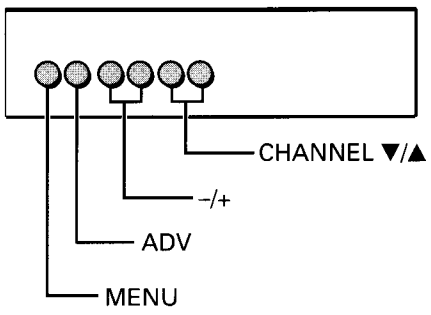


4 When channel programming is complete, you will see the message at the right.



5 Press **CHANNEL** ▲ or ▼ to make sure the channel programming has been done properly.

Programming Channel Memory (Continued)



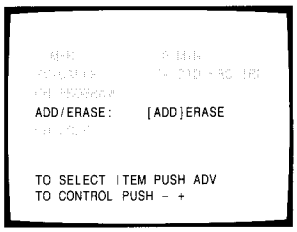
ADD/ERASE function

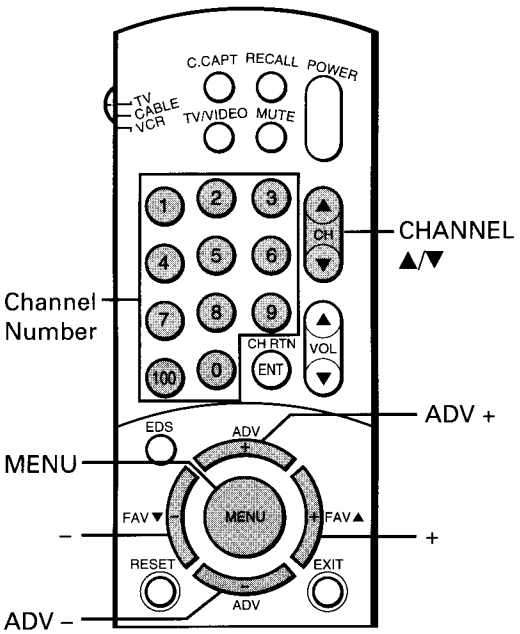
After performing the CH PROGRAM function, you can add or erase specific channels.

1 Select the channel you want to erase using the **CHANNEL ▲** or **▼** button, or select the channel you want to add using the **Channel Number** buttons.

2 Press **MENU** repeatedly until the Setup menu is displayed on the screen.

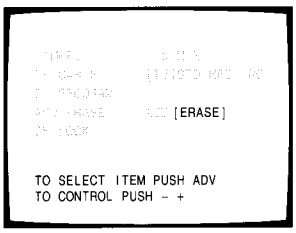
3 Press **ADV** repeatedly until "ADD/ERASE" is displayed in magenta.



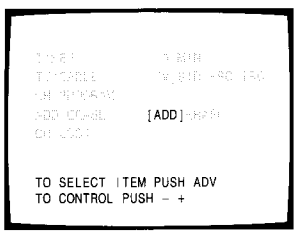


4 Press – or + :

To erase the channel
Press the button until "ERASE" is displayed in magenta indicating that the channel has been erased from the memory.



To add the channel
Press the button until "ADD" is displayed in magenta indicating that the channel has been memorized.



5 Repeat steps 1 to 4 for other channels.

You have now completed the channel programming.

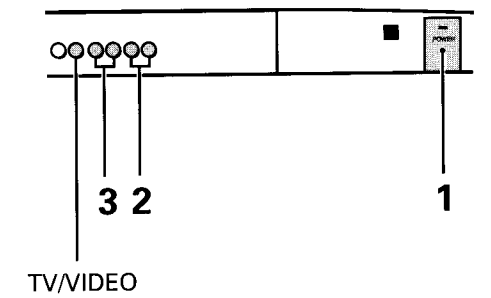
CABLE channel reference chart

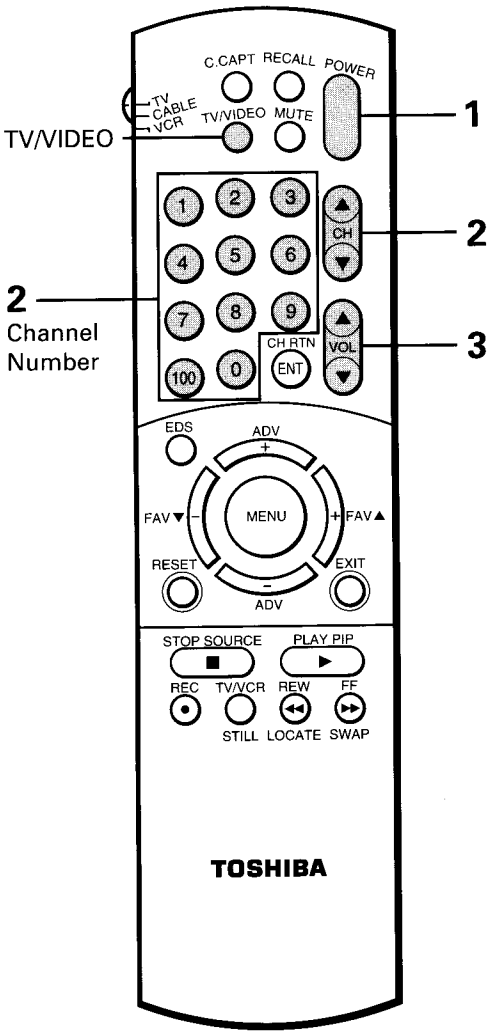
Number on this TV	1	5	6	14	15	16 ····· 34	35	36	37	38 ····· 60	61	62	63	64	65	66
Corresponding CABLE channel	A-8	5(A-7)	6(A-6)	A	B	C ····· U	V	W	AA	BB ····· XX	YY	ZZ	AAA	BBB	65	66
Number on this TV	**67**	**68**	**69 ····· 92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**	**100**	**101**	**102 ····· 123**	**124**	**125**	
Corresponding CABLE channel	67	68	69 ····· 92	93	94	A-5	A-4	A-3	A-2	A-1	100	101	102 ····· 123	124	125	

The above chart is typical of many cable system channel allocations. If in doubt, consult your cable company.

Watching TV Programs

- First set the TV-CABLE-VCR switch on the Remote Control to "TV" position.

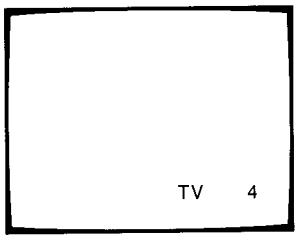




Note:
The VOLUME ▼/▲ buttons on the TV function as the –/+ buttons while any menu display (Picture, Audio, Setup or Option) is on the screen.

1 Press **POWER** to turn on the TV.

To turn off the TV, press **POWER** again.



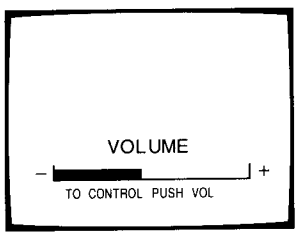
2 Select a channel in one of the following two ways.

- **To scan the memorized channels in numerical sequence**
  Press **CHANNEL ▲** to select the next higher channel.
  Press **CHANNEL ▼** to select the next lower channel.
  Press the button again to select the next memorized channels.

- **To select a channel directly**
  Press the **Channel Number** buttons (0-9 and 100).
  To select channel 4, press "4" (or press "0", "4").
  To select channel 38, press "3", "8".
  To select channel 125, press "100", "2", "5" in sequence.

  If you cannot select certain channels, either TV (off the air) or CABLE channels
  Check if the TV/CABLE function is properly set. See page 13.

3 Press **VOLUME ▲/▼** to adjust the volume.
To increase the volume, press ▲.
To decrease the volume, press ▼.



Watching Video Input

The TV/VIDEO button is used to view the signals coming from other devices like VCR's or Laser disc Players connected to this TV.
Details are on page 28.

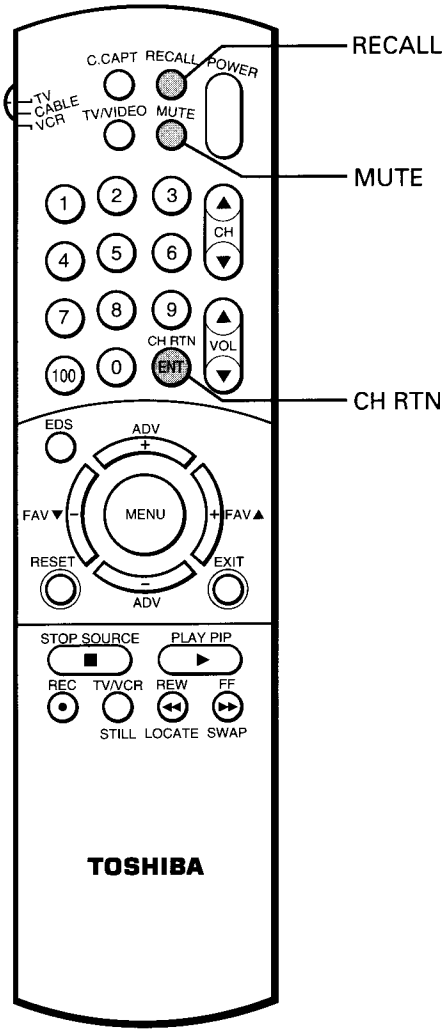
Auto-Power-Off

If a vacant channel is tuned or TV broadcast for a day is finished, the TV will automatically turn off after about 15 minutes.
This feature does not operate in the VIDEO mode.

Last Mode Memory

If the power is cut off while you are viewing the TV and the power is resupplied, the TV is turned on automatically by the ***Last Mode Memory*** feature. If the power is going to be off or when you leave home for a long time, remove the power plug from the wall outlet to prevent the TV from turning on in your absence.

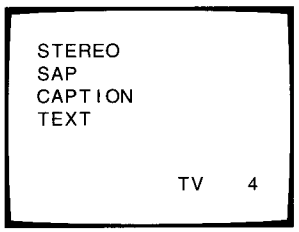
Convenient Remote Functions



Displaying on-screen information

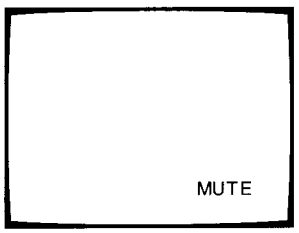
Press **RECALL** to display the following on-screen information.

- Channel number
- VIDEO mode selected
- Stereo or SAP audio status
- Closed Caption or Text program status



Muting the sound

Press **MUTE** to mute the sound. The word "MUTE" will be displayed on the screen as shown. This is useful during telephone calls or other interruptions.
To restore the sound, press **MUTE** again.



Note: When the MUTE button is pressed, the Closed-Captioned feature is activated. (**"MUTE" on-screen display will disappear.**) To deactivate, press the MUTE button again. (This feature only functions when the Closed Caption mode is set to "OFF".)

Changing quickly between two channels

Press **CH RTN** to return to the last channel viewed.
This is useful should you want to view two channels. This allows you to view two programs without entering an actual channel number each time.

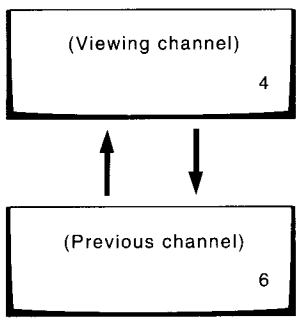
To operate this function

1 Select the first channel you want to view.

2 Select the other channel with the Channel Number buttons.

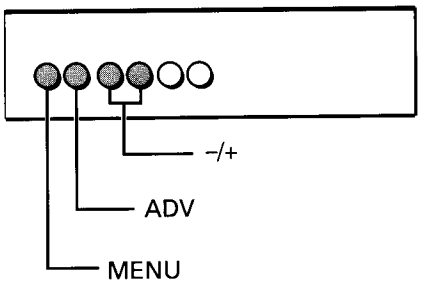
3 Press **CH RTN**.
The previous channel will return.

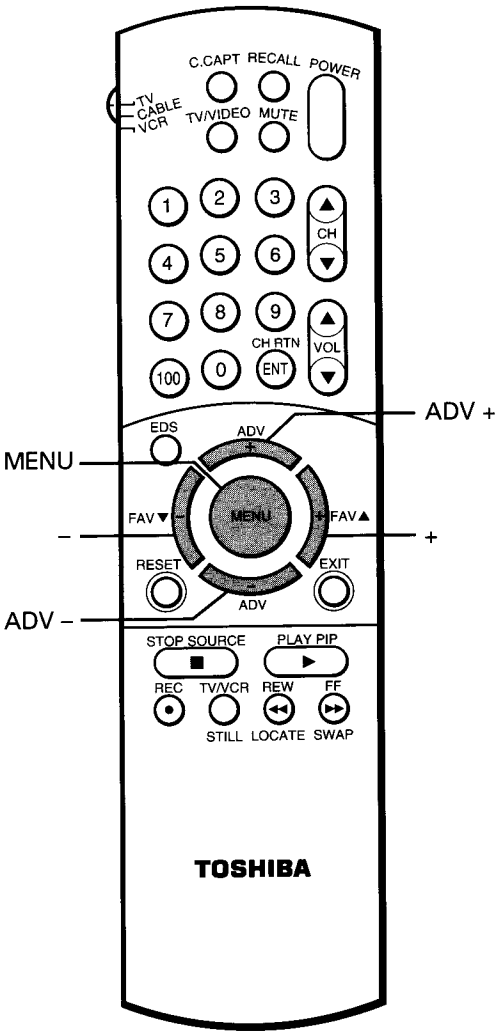
Each time you press **CH RTN**, the TV will switch back and forth between the two channels.



Selecting Stereo/SAP Broadcasts

The MTS (Multi-channel TV Sound) feature allows you to improve your TV viewing with high fidelity stereo sound. MTS also provides for an extra channel, SAP (Second Audio Program), used to transmit a second language or other audio information.

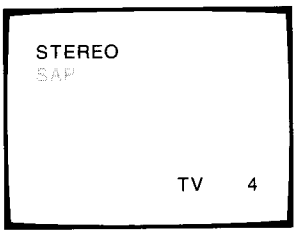




If the stereo sound is noisy
Be sure you have selected "STR" mode if broadcast is in stereo. However, if a broadcast signal is not strong enough, and noise-free stereo sound is not available, select "MONO" (monaural) mode.
The noise should be reduced.

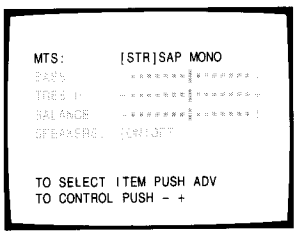
Listening to stereo sound

1 When the TV receives a stereo broadcast, the word "STEREO" ("SAP" in the Second Audio Program) is displayed on the screen whenever the TV is turned on, a channel is selected, or the RECALL button is pressed.



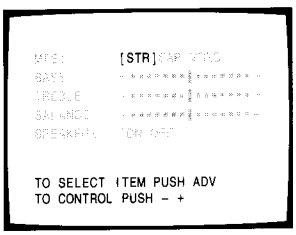
2 Press **MENU** repeatedly until the Audio menu is displayed on the screen.

3 Press **ADV** repeatedly until "MTS" is displayed in magenta.
If a stereo broadcast is received, "STR" will be displayed in yellow.



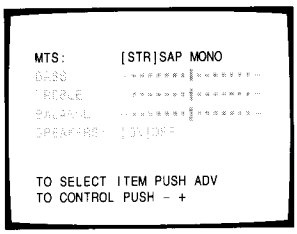
4 Press – or + until "STR" (stereo) is displayed in magenta.

Normally this function can be left in "STR" mode. Your TV will then automatically reproduce either stereo or monaural sound, whichever is broadcast.

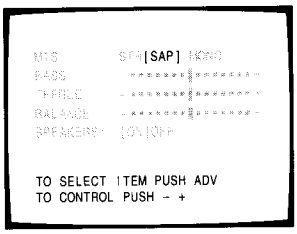


Listening to second language

1 Follow steps 1 through 3 above.



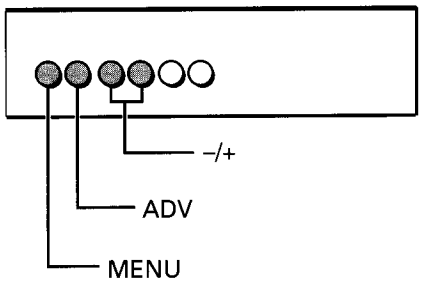
2 Press – or + until "SAP" is displayed in magenta.
You will hear only the second language from the left and right speakers.

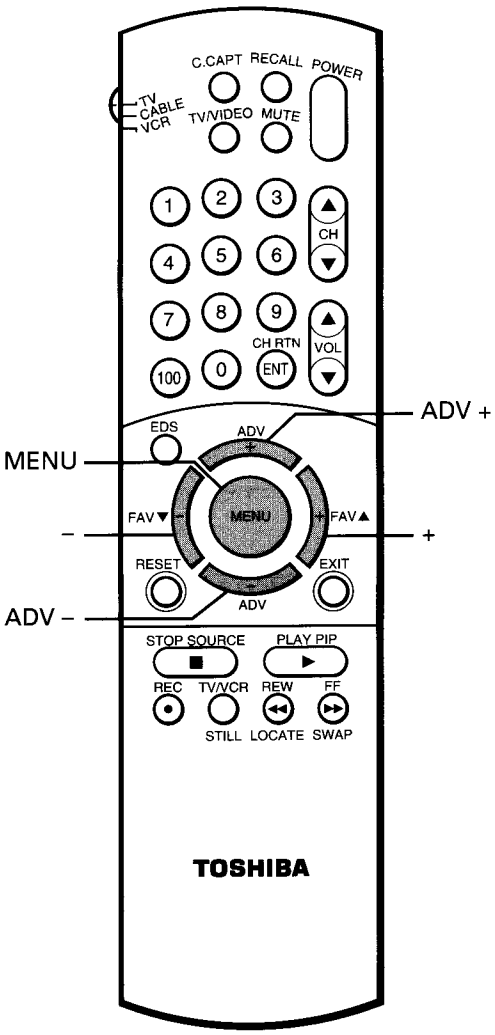


Note: "MTS" in the Audio menu does not function in the VIDEO mode.

Adjusting the Picture

You can adjust the picture quality (CONTRAST, BRIGHTNESS, SHARPNESS, COLOR and TINT) to suit your taste.

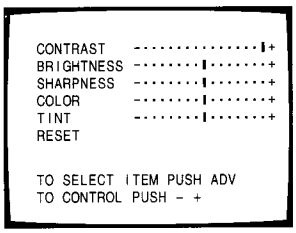




Adjusting the picture quality

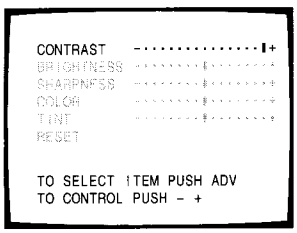
1 Press **MENU** repeatedly until the Picture menu is displayed on the screen.

2 Press **ADV** repeatedly until the item you want to adjust is displayed in magenta.



3 Press – or + to adjust the level.

Example: CONTRAST adjustment mode display

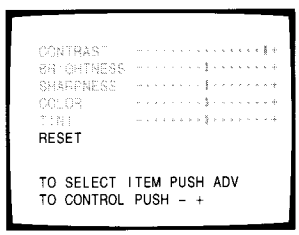


Selection	Pressing	
	–	+
CONTRAST	lower	higher
BRIGHTNESS	darker	lighter
SHARPNESS	softer	sharper
COLOR	paler	deeper
TINT	reddish	greenish

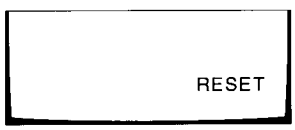
To reset the PICTURE adjustment to the factory-preset level
(maximum CONTRAST and all other adjustments centered)

1 Press **MENU** repeatedly until the Picture menu is displayed on the screen.

2 Press **ADV** repeatedly until "RESET" is displayed in magenta.



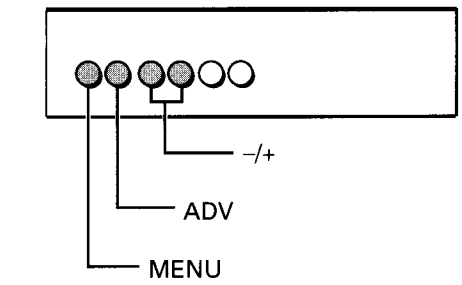
3 Press – or +.

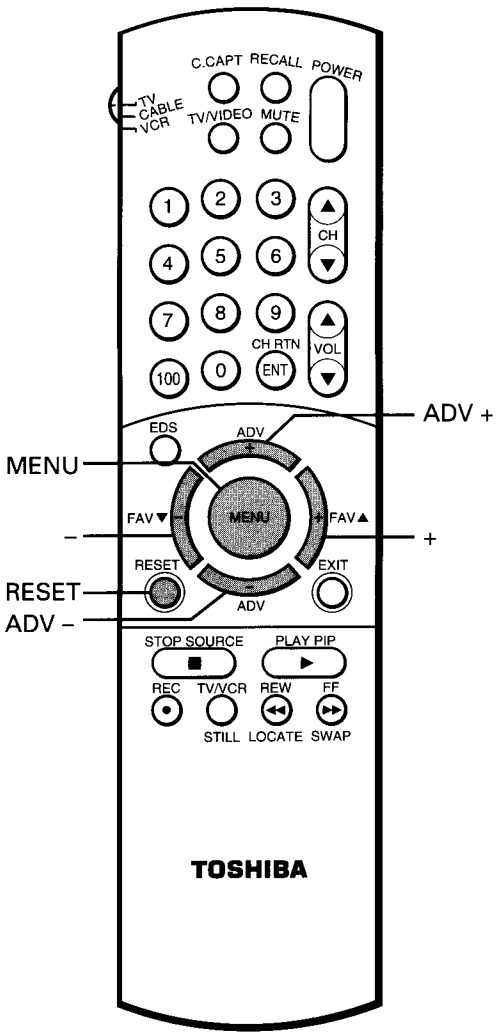


Note: You can also use the RESET button on the Remote Control. (See page 19.)

Adjusting the Sound

You can adjust the sound quality (BASS, TREBLE and BALANCE) to suit your taste.

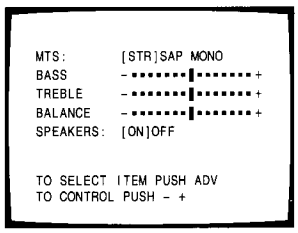




Adjusting the sound quality

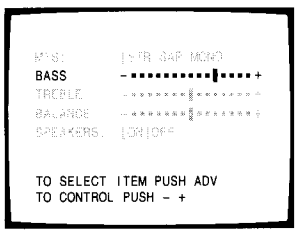
1 Press **MENU** repeatedly until the Audio menu is displayed on the screen.

2 Press **ADV** repeatedly until the item you want to adjust is displayed in magenta.



3 Press – or + to adjust the level.

Example: BASS adjustment mode display

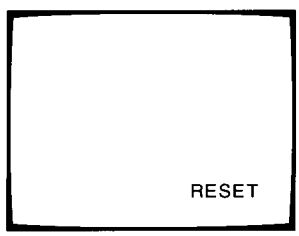


Selection	Pressing	
	–	+
BASS	weaker	stronger
TREBLE	weaker	stronger
BALANCE	decreases the right channel	decreases the left channel

RESET button (on the Remote Control)

To reset the picture and audio adjustments to the factory-preset level (maximum CONTRAST and all other adjustments centered)

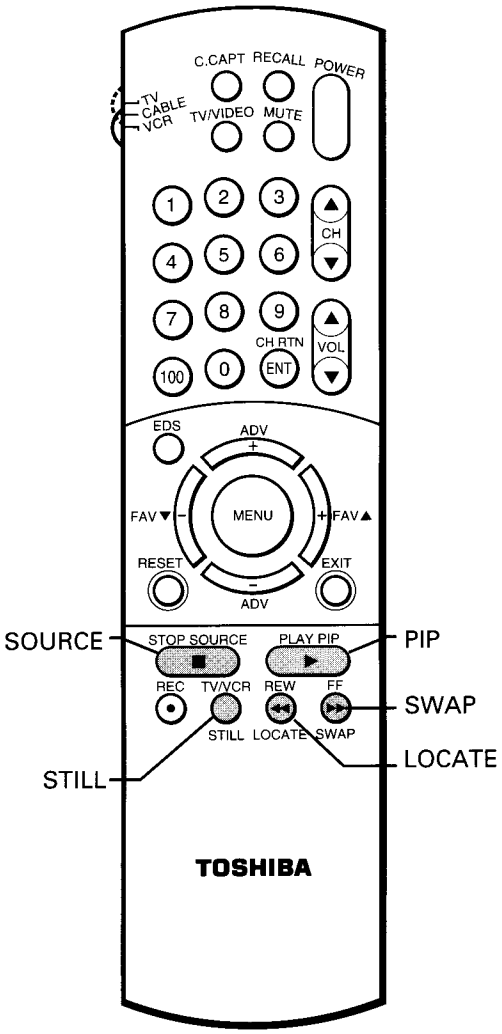
Press **RESET**.



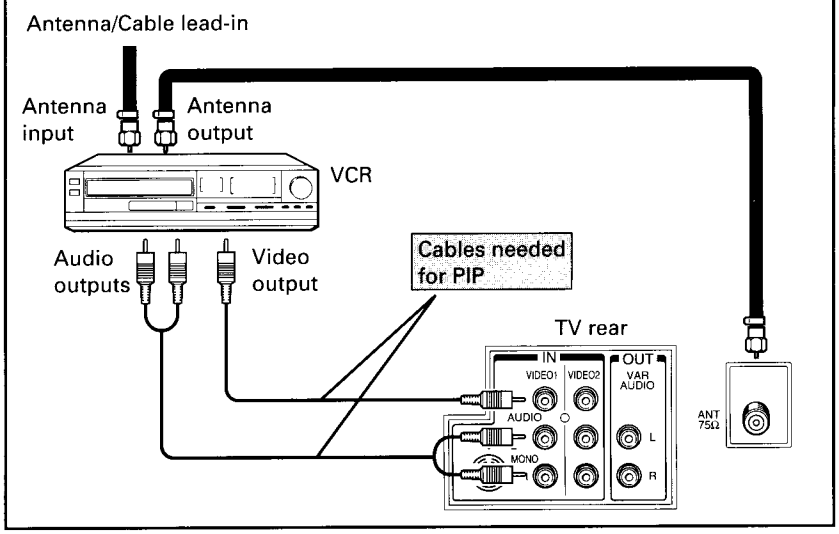
Note: The "SPEAKERS" function is explained on page 29.

Watching Picture-in-Picture

In addition to the main picture, another TV program or video source being received through the VIDEO input jacks can be displayed simultaneously as a small picture. This is called PIP (Picture-in-Picture).
Be sure to connect a VCR with the VIDEO/AUDIO cables.

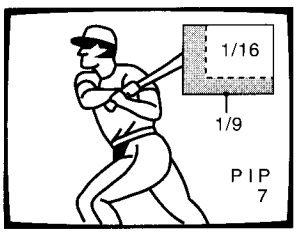


Connecting TV and VCR for PIP

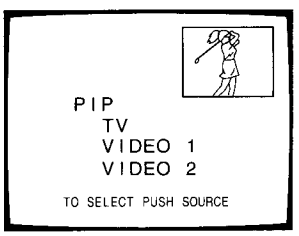


Displaying a small picture

1 Press **PIP once** to display a small picture.
The 1/9 size window picture will appear.
If you press **twice:** The 1/16 size window picture will appear.



2 Press **SOURCE** repeatedly to select the input source (VIDEO 1 or VIDEO 2) for the small picture.
The selected source will be displayed in magenta.



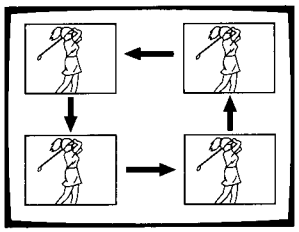
3 Select channels for the PIP using the VCR's channel keys.

To turn off the small picture, press PIP
– **Twice**, if you watch the 1/9 size window picture.
– **Once**, if you watch the 1/16 size window picture.

Using advanced functions

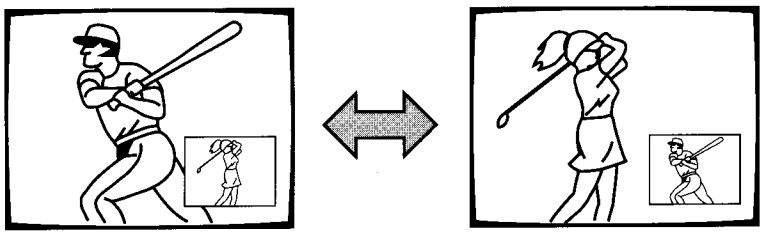
To change the position of the small picture

Press **LOCATE** repeatedly when a small picture is displayed. The display position of the small picture will change in order.



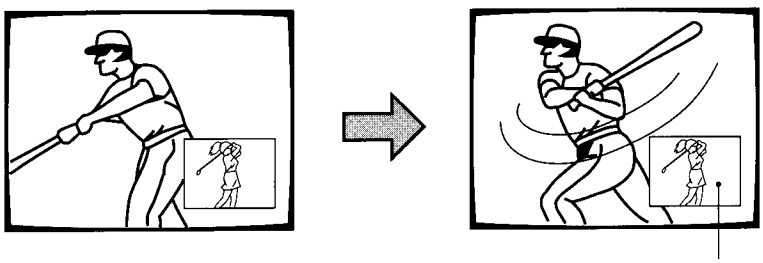
To switch the main and small picture

Press **SWAP** when a small picture is displayed.
The main and small pictures will switch.
To switch them again, press **SWAP** again.



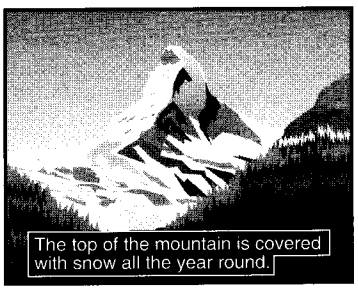
To freeze the small picture

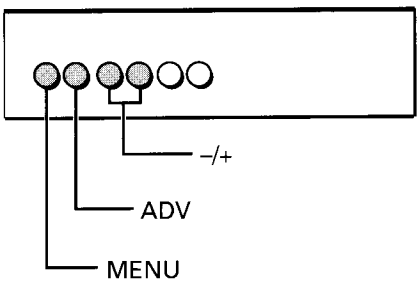
Press **STILL** when a small picture is displayed.
The small picture will become a still picture.
To return to a moving picture, press **STILL** again.

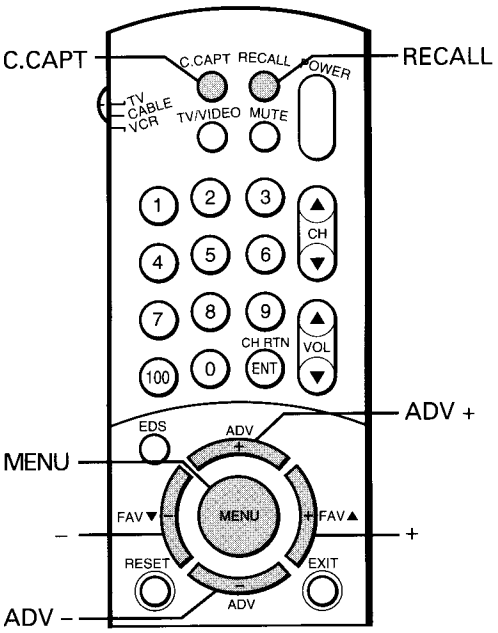


Still picture

Using Closed-Captioned Function





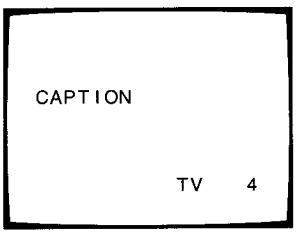


Viewing captions

Closed-captioning is a printed version of the dialogue, narration, and/or sound effects of a TV program.
Captions will appear on the screen during captioned broadcasts as shown.
Captioning is especially helpful for hearing impaired individuals.

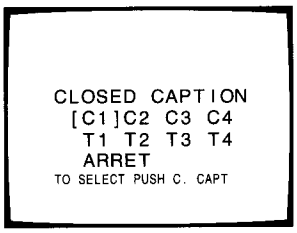
1 Select the desired program.

2 Press **RECALL** to check if the program is being captioned. If it is, the word "CAPTION" is displayed on the screen.
The captioned programs are usually notated on your local TV listings by its service marks such as "CC".



3 Press **C.CAPT** on the Remote Control to call up the CLOSED CAPTION menu. Usable selections are displayed in yellow.

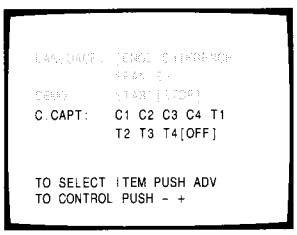
Press **C.CAPT** repeatedly until "C1", "C2", "C3" or "C4" is displayed in magenta. ("C1" stands for CAPTION 1, for example.)
Select "C1" for translation of the primary language in your area.
Select "C3" for captioning information usually of secondary languages.
"C2" or "C4" carry Closed Captioning but not necessarily in the same time frame as the sound from the program.



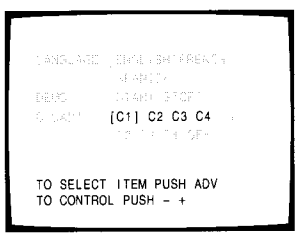
You can also select this feature using the on-screen menu function.

1 Press **MENU** repeatedly until the Option menu is displayed on the screen.

2 Press **ADV** repeatedly until "C.CAPT" is displayed in magenta.



3 Press – or + to select "C1", "C2", "C3" or "C4".

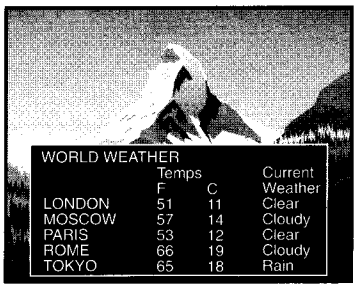


To deactivate this feature
Select "OFF" in the closed caption mode display.

Note:
A closed-captioned signal may not be decoded in the following situations.
- When a video tape has been dubbed.
- When the signal reception is weak.
- When the signal reception is non-standard.

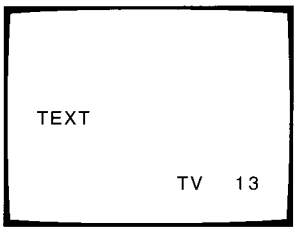
Viewing text

Text is information that is presented using one half of the television screen. It is usually not related to the program.
For example, it could be a listing of the closed-captioned programs, news, weather information or stock market reports.



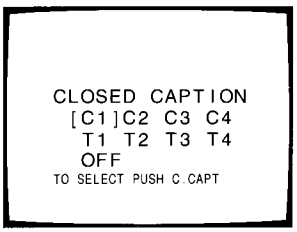
1 Select the desired program.

2 Press **RECALL** to check if the program includes text information. If it is, the word "TEXT" is displayed on the screen.



3 Press **C.CAPT** on the Remote Control to call up the CLOSED CAPTION menu. Usable selections are displayed in yellow.

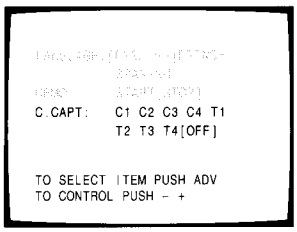
Press **C.CAPT** repeatedly until "T1", "T2", "T3" or "T4" is displayed in magenta. ("T1" stands for TEXT 1, for example.)



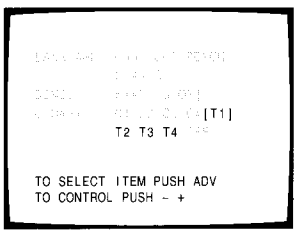
You can also select this feature using the on-screen menu function.

1 Press **MENU** repeatedly until the Option menu is displayed on the screen.

2 Press **ADV** repeatedly until "C.CAPT" is displayed in magenta.



3 Press – or + to select "T1", "T2", "T3" or "T4".

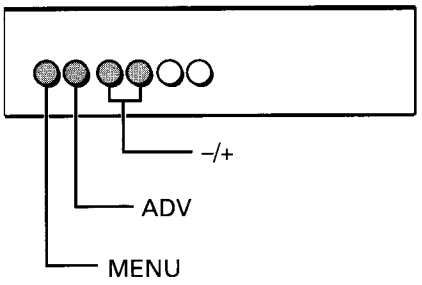


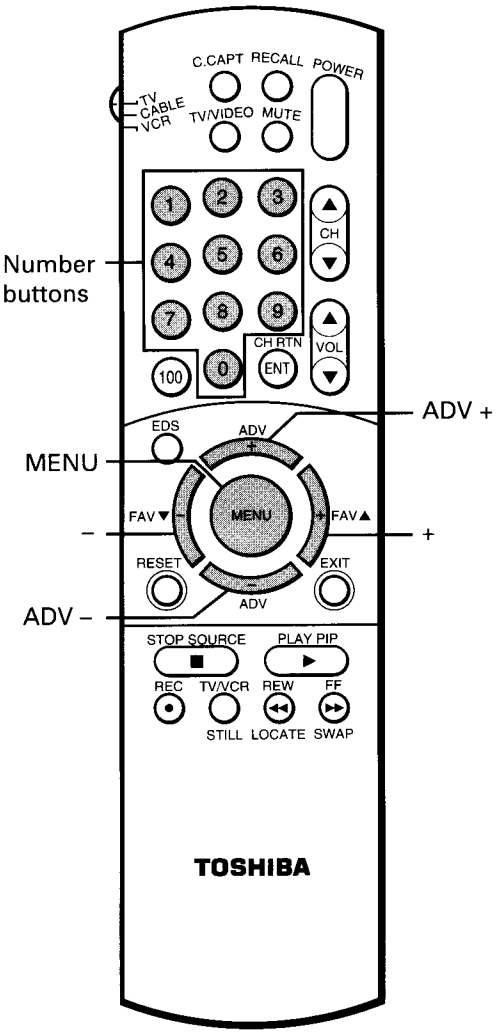
To deactivate this feature
Select "OFF" in the closed caption mode display.

Note: If you select a closed-captioned channel and the "TEXT" mode, the TEXT screen always appears.
However, TEXT characters are not displayed when no signal is aired.

Locking Channels

With this function you can lock out specific channels (for example a channel that you do not want your children to watch) by entering your own 4-digit code. The TV will not be able to tune them for the next 24 hours, unless you cancel the locked out channels. This TV has 4 memory spaces total for the TV mode and CABLE mode respectively.

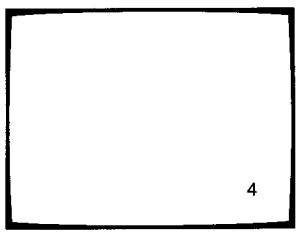




Locking out channels

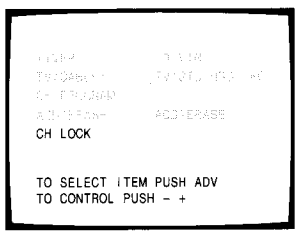
1 Select a channel you want to lock out.

Example: channel 4

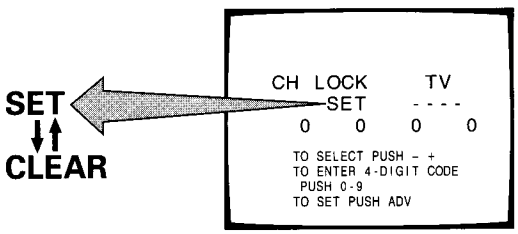


2 Press **MENU** repeatedly until the Setup menu is displayed on the screen.

3 Press **ADV** repeatedly until "CH LOCK" is displayed in magenta.



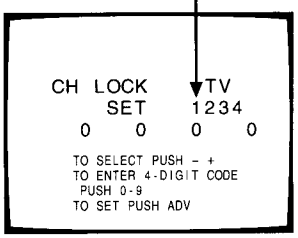
4 Press **–** or **+** to call up the channel lock adjustment display shown below. Each time you press the button, you are guided between "SET" and "CLEAR".
Select "SET".



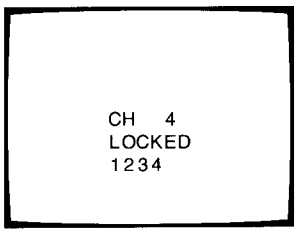
5 Press Number buttons (0 - 9) to enter a 4-digit code.
The numbers you enter will replace the dashes in the display.
Pick a number that is easy to remember.

Example: To enter "1234"
Press 1, 2, 3 and 4 in order.

1 - - - ➡1 2 - - ➡1 2 3 - ➡1 2 3 4



6 Press **ADV** to lock out the channel.
The display at the right will appear on the screen for about 4 seconds.



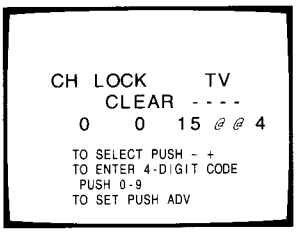
7 Repeat steps 1 to 6 for other channels.
This TV has 4 memory spaces total for the TV mode and CABLE mode respectively.

Note: If a different code number is used whenever you lock out a channel, the last one has priority over the preceding ones.

8 Select another channel, or turn off the TV if desired.

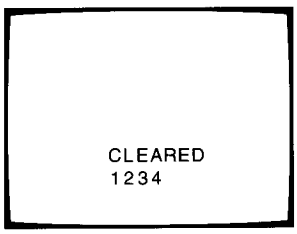
Restoring channels

1 Select "CLEAR" following the steps 2 to 4 on the previous page.

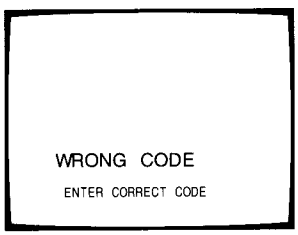


2 Press the 4-digit code used to lock out the channels with the Number buttons.

3 Press **ADV**.
If you have entered the correct code
The display shown at the right appears.



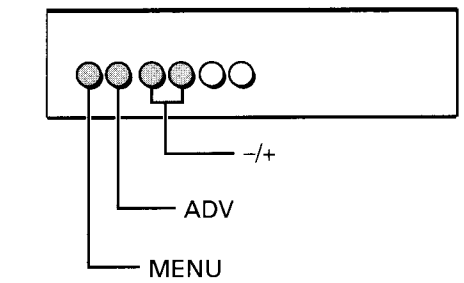
If a wrong code has been entered
These messages appear. Try to enter the correct code again.

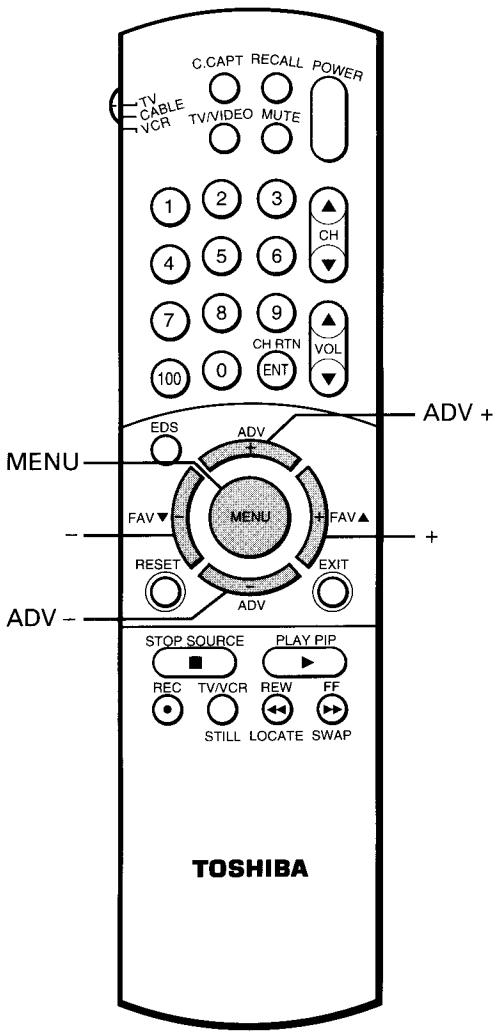


If you want to know the channels you have locked out
Call up the channel lock adjustment mode using the Setup menu.

Setting the Off-Timer

With the off-timer, you can set the TV to turn off automatically after a predetermined period of time (up to 3 hours, in 10 minutes unit).

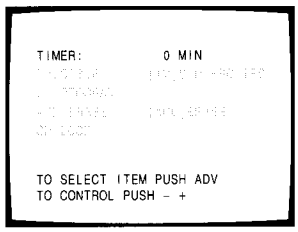




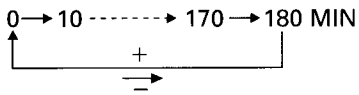
Setting the off-timer

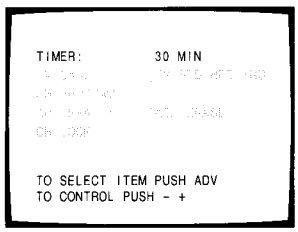
1 Press **MENU** repeatedly until the Setup menu is displayed on the screen.

2 Press **ADV** repeatedly until "TIMER" is displayed in magenta.



3 Press + or – to enter the length of time you want the TV to stay on.
Each time you press the button, the time display will increase or decrease by 10 minutes.

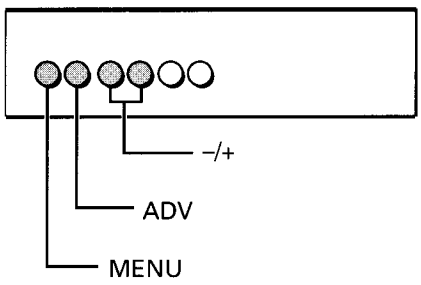




Notes: To cancel the off-timer, press **POWER**.
To turn the TV on again, press **POWER**.

Changing On-Screen Display Language

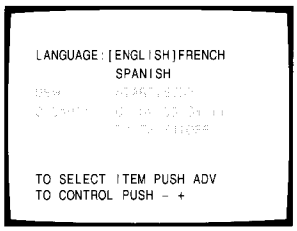
Three different languages (ENGLISH, FRENCH and SPANISH) are available for the on-screen displays (adjustment menus, and messages), and you can choose the desired one.



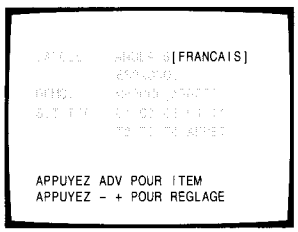
Selecting a language

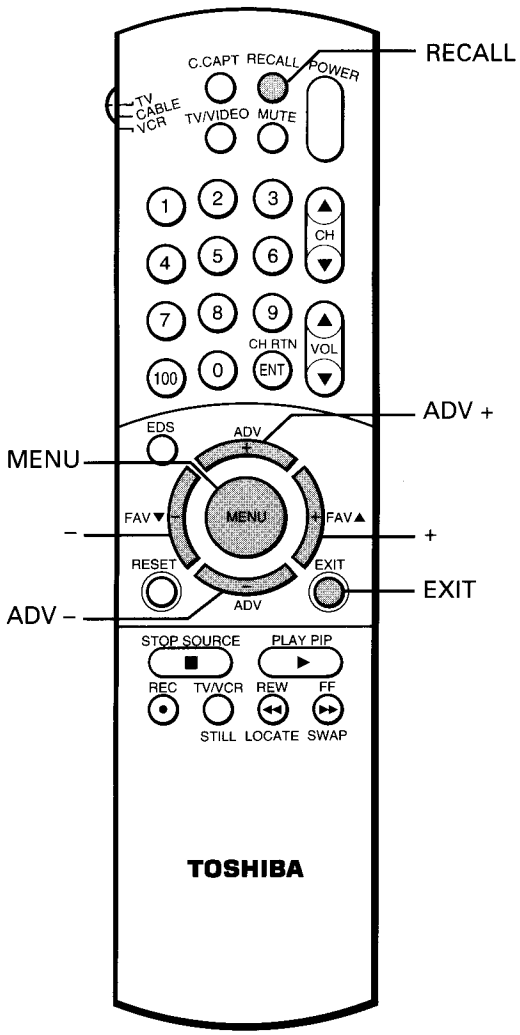
1 Press **MENU** repeatedly until the Option menu is displayed on the screen.

2 Press **ADV** repeatedly until "LANGUAGE" is displayed in magenta.



3 Press – or + until your desired language is displayed in magenta.
If you select "FRENCH" for example, the display language changes to French.





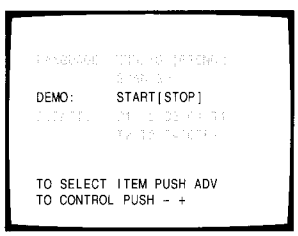
Demonstration Mode

When this function is activated, your TV will automatically display a variety of its on-screen menus and special features.
This function is provided for demonstration purpose only.

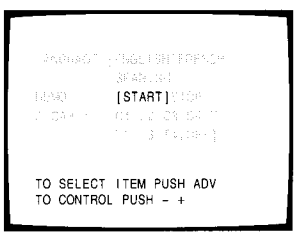
Starting the on-screen demonstration

1 Press **MENU** repeatedly until the Option menu is displayed on the screen.

2 Press **ADV** repeatedly until "DEMO" is displayed in magenta.



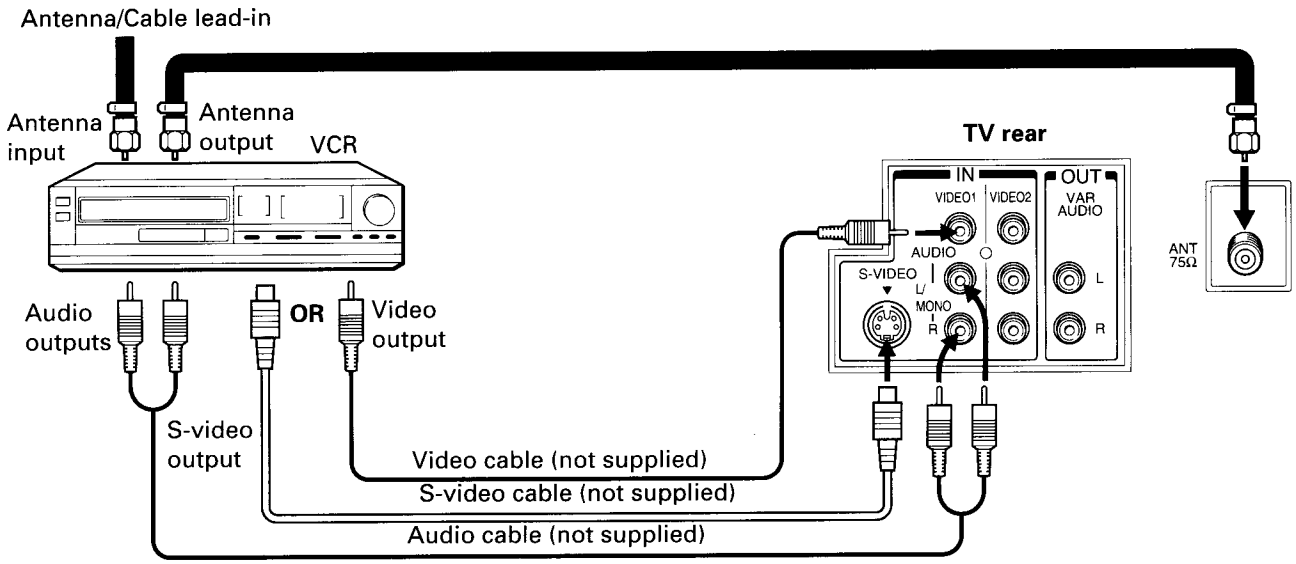
3 Press – or + until "START" is displayed in magenta.
The on-screen demonstration will start after about 15 seconds.



To stop the demonstration
Press **RECALL**, **EXIT**, **POWER OFF/ON BUTTON**, or select "STOP" in step 3 above.

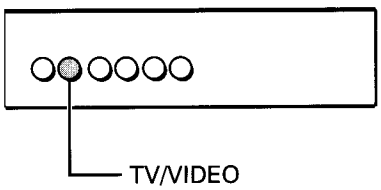
Connecting a VCR

Connect VIDEO/AUDIO IN jacks on the TV rear to the video/audio output jacks of a VCR, Laser disc Player, Camcorder, etc. for playback of video material. The S-VIDEO jack is provided for direct S-video connection from VCR (or camcorder). When the S-video cable is connected to the S-VIDEO IN jack, the VIDEO plug should not be connected.



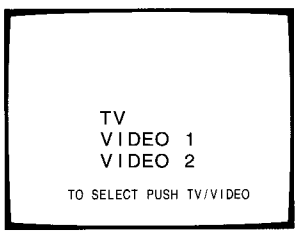
Preparing for use

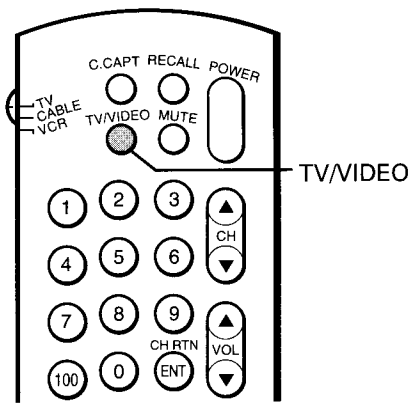
To operate your TV and video equipment properly, refer to the instructions furnished with the video equipment.



1 Turn the TV and VCR ON.

2 Press **TV/VIDEO** on the Remote Control or on the TV to select the appropriate source.
Each time you press the button, TV, VIDEO 1 or VIDEO 2 source will be selected in order.
The selected source will be displayed in magenta.





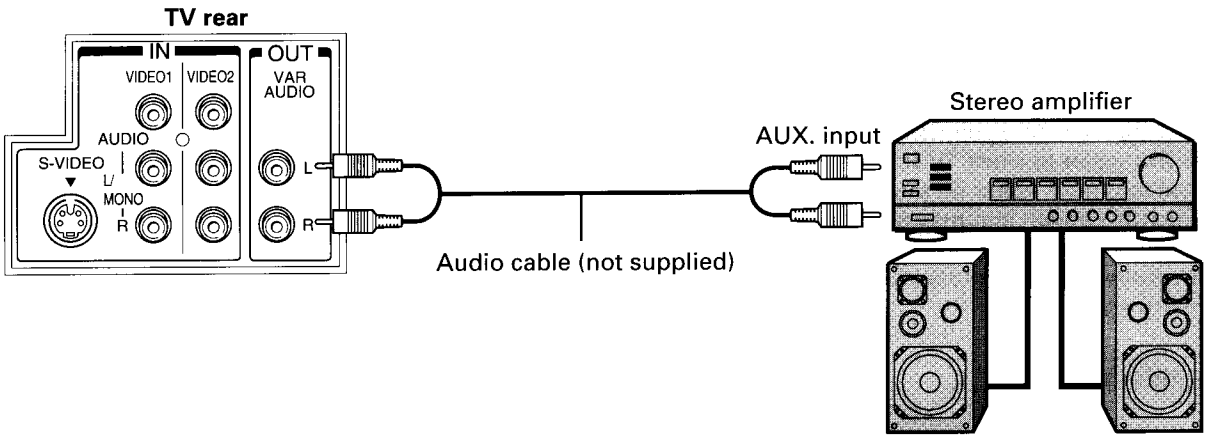
3 Operate your VCR normally.

Notes:

- The VIDEO 2 IN jacks can also be used for connecting a second piece of video equipment with video/audio outputs. To view video from equipment connected to the VIDEO 2 IN jacks, select "VIDEO 2."
- If you connect a monaural VCR, connect the audio output of the VCR to the L/MONO jack on the TV.
- The S-VIDEO jack accepts separated luminance/chrominance (Y-C) signals conforming to the NTSC standard.

Connecting an Audio Amplifier

Connect the VARiable AUDIO OUT jacks to the auxiliary input jacks on the stereo amplifier. You can control the audio level using the Remote Control for this TV.



Preparing for use

1 Turn the TV and the stereo amplifier ON.

2 Adjust the VOLUME buttons on the TV for a moderate listening level.

3 Disconnect the built-in speakers following the instructions at the right.

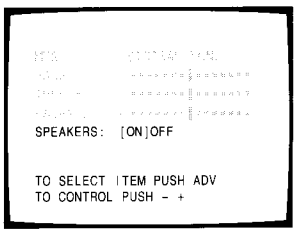
4 Adjust the volume control on the stereo amplifier for a moderate listening level.

5 Control of the audio can now be done using the VOLUME and MUTE buttons on the Remote Control of the TV, and using the Audio menu items (BASS, TREBLE and BALANCE).

Disconnecting the built-in speakers

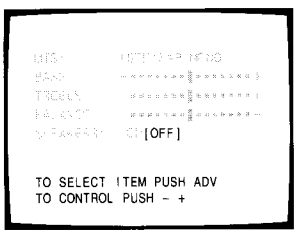
1 Press **MENU** repeatedly until the Audio menu is displayed on the screen.

2 Press **ADV** repeatedly until "SPEAKERS" is displayed in magenta.



3 Press – or + until "OFF" is displayed in magenta.

The built-in speakers will be disconnected.



To use the built-in speakers again
Select "ON" in step 3 above.

Cleaning and Care

WARNING: TV sets use High Voltage. Do not try to remove the cabinet back. Refer servicing to qualified service personnel.

- To clean the TV screen:
  1. First remove the plug from the power outlet to avoid possible shock hazard.
  2. Use a clean cellulose sponge or chamois cloth dampened with a solution of mild detergent and warm water to clean TV screen and trim. Do not use too much water on the TV screen. Water spills into the cabinet and may cause damage to the TV. Avoid excess water.
  3. Remove any extra moisture with the same cloth or a dry one.

- To maintain the finish and appearance of the cabinet, polish it from time to time with a quality furniture polish.

Caution: Never use strong solvents such as thinner, benzene or other chemicals on or near cabinet, as they might damage the finish of the cabinet.

Specifications

TELEVISION SYSTEM:	NTSC standard
CHANNEL COVERAGE:	VHF; 2 through 13 UHF; 14 through 69 Cable TV; mid band (A-8 through A-1, A through I) super band (J through W) hyper band (AA through ZZ, AAA, BBB) ultra band (65 through 94, 100 through 125)
POWER SOURCE:	120V AC, 60Hz
POWER CONSUMPTION:	103W (average)
AUDIO POWER:	5W + 5W
SPEAKER TYPE:	Two 2-3/4 x 5-1/8 inches (70 x 130 mm)
VIDEO/AUDIO TERMINALS:	VIDEO/AUDIO INPUT VIDEO: 1V(p-p), 75 ohm, negative sync. AUDIO: 150mV(rms) (30% modulation equivalent, 47k ohm) VARIABLE AUDIO OUTPUT 0 - 350mV(rms) (30% modulation equivalent, 4.7k ohm)
DIMENSIONS:	Width ..... 33-15/64 inches (844mm) Height ..... 27-41/64 inches (702mm) Depth ..... 22-41/64 inches (575mm)
MASS:	133.4 lbs. (61.0 kg)
SUPPLIED ACCESSORIES:	Remote Control with 2 size "AAA" batteries Antenna adapter

Design and specifications are subject to change without notice.

Before Calling Service Personnel

Before calling service personnel, please check the following chart for a possible cause of the problem you are experiencing. A minor adjustment on your part may eliminate the problem and restore your TV reception.

Symptoms	Check	Adjustments
• No picture, no sound	• Be sure power cord is plugged in. • May be station trouble. • Check antenna connections. • Check antenna for broken wires.	• Press POWER button. • Try another channel.
• No sound, picture OK	• May be station trouble. • Check if SPEAKERS ON/OFF function (page 29) is properly set.	• Try another channel. • Adjust VOLUME.
• Poor sound, picture OK	• May be station trouble. • Check antenna connections. • May be local interference from appliance.	• Try another channel. • Adjust VOLUME. • Adjust BASS, TREBLE, or BALANCE control. • Re-orient antenna.
• Poor picture, sound OK Snowy picture Lines in picture Distorted picture Weak picture	• May be local interference from appliance. • Check antenna connections. • Check antenna for broken wires. • May be station trouble.	• Try another channel. • Adjust BRIGHTNESS. • Adjust CONTRAST. • Adjust SHARPNESS. • Re-orient antenna.
• Poor reception of broadcast channels	• Check antenna connections. • Check antenna for broken wires. • If VCR is connected, check TV/VCR switch.	• Try another channel. • Re-orient antenna.
• No UHF, VHF OK	• Be sure TV/CABLE function (page 13) is in "TV" mode.	
• Unable to select a certain channel	• That channel may be locked out with CH LOCK function (page 24), or erased with the ADD/ERASE function (page 14).	
• Multiple images (ghosts)	• May be station trouble. • Check antenna connections.	• Try another channel. • Re-orient antenna.
• Poor color or No color	• May be station trouble. • Check antenna connections. • Check antenna for broken wires. • May be local interference from appliance. • Check if station is broadcasting in color. • If you change the direction of the TV while the TV is activated, the picture may suffer from color shading. If so, turn off the TV and allow to cool for about 30 minutes, then turn on the TV again. The picture should improve.	• Try another channel. • Re-orient antenna. • Adjust TINT. • Adjust COLOR.
• No stereo or SAP sound from a known MTS broadcast	• Check if MTS function is properly set.	
• Remote Control does not work	• Check if TV-CABLE-VCR switch is properly set. • Be sure power cord is plugged in. • Check battery in Remote Control.	• Change batteries.

Limited United States Warranty

Toshiba America Consumer Products, Inc. ("TACP") and Toshiba Hawaii Inc. ("THI") make the following limited warranties. These limited warranties extend to the original consumer purchaser or any person receiving this set as a gift from the original consumer purchaser and to no other purchaser or transferee.

Limited One (1) Year Warranty
TACP and THI warrant this product and its parts against defects in materials or workmanship for a period of one (1) year after the date of original retail purchase. During this period, TACP and THI will repair a defective product or part, without charge to you. "Authorized TACP/THI service station personnel will come to your home when warranty service is required. Depending on the type of repair required, the service will either be performed in your home or the set will be taken to the authorized TACP/THI service station for repair and returned to your home at no cost to you."

Limited Two (2) Year Warranty of Picture Tube
TACP and THI further warrant the picture tube in this product against defects in materials or workmanship for a period of two (2) years after the date of original retail purchase. During this period, TACP and THI will replace a defective picture tube without charge to you, except that if a defective picture tube is replaced after one (1) year from the date of the original retail purchase, you pay labor charges involved in the replacement.

Owner's Manual and Registration Card
You should read this owner's manual thoroughly before operating this product. You should also insure that your name and address are on file as owner of a TACP/THI product by completing and mailing the enclosed registration card within ten days after you, or the person who has given you this product as a gift, purchased this poduct. This is one way to enable TACP/THI to provide you with better customer service and improved products. Failure to return the card will not affect your rights under this warranty so long as you retain other proof of purchase such as a bill of sale.

Your Responsibility
The above warranties are subject to the following conditions:
(1) You must retain your bill of sale or provide other proof of purchase.
(2) All warranty servicing of this product must be made by an Authorized TACP/THI Service Station.
(3) These warranties are effective only if the product is purchased and operated in the U.S.A.
(4) Labor service charges for set installation, set up, adjustment of customer controls and installation or repair of antenna systems are not covered by this warranty. Reception problems caused by inadequate antenna systems are your responsibility.
(5) Warranties extend only to defects in materials or workmanship as limited above and do not extend to any product or parts which have been lost or discarded by you or to damage to products or parts caused by misuse, accident,damage caused by Acts of God, such as lightning or fluctuations in electric power, improper installation, improper maintenance or use in violation of instructions furnished by us; or to units which have been altered or modified without authorization of TACP/THI or to damage to products or parts thereof which have had the serial number removed, altered, defaced or rendered illegible.

Step-By-Step Procedures – How to Obtain Warranty Service

If, after following all of the operating instructions in this manual and checking the section "BEFORE CALLING SERVICE PERSONNEL", you find that service is needed;
(1) Contact one of the TACP/THI Service Centers listed below for warranty service or call the TACP toll free number **800-631-3811** within thirty (30) days after you find a defective product or part to find the nearest TOSHIBA Authorized Service Station or any authorized TOSHIBA dealer.
(2) Please present your bill of sale or other proof to the Authorized Service Station. "Authorized TACP/THI service station personnel will come to your home when warranty service is required. Depending on the type of repair required, the service will either be performed in your home or the set will be taken to the authorized TACP/THI service station for repair and returned to your home at no cost to you."
(3) If you have any question about service, please contact one of the following TACP/THI Service Centers:

IN THE CONTINENTAL UNITED STATES
Should your unit require service, Call

NORTHEAST	MIDWEST	WEST	SOUTHEAST	SOUTHWEST	HAWAII
82 Totowa Road, Wayne, New Jersey 07470	1010 Johnson Drive, Buffalo Grove, Ill 60089-6900	5490 E. Francis St., Ontario, California 91761	6115 Jimmy Carter Blvd., Suite C2, Norcross, Georgia 30071-4607	1421 Champion Drive Suite 304, Carrollton, Texas 75006	327 Kamakee Street, Honolulu, Hawaii 96814

All warranties implied by state law, including the implied warranties of merchantability and fitness for a particular purpose, are expressly limited to the duration of the limited warranties set forth above. With the exception of any warranties implied by state law as hereby limited, the foregoing warranty is exclusive and in lieu of all other warranties, guarantees, agreements and similar obligations of manufacturer or seller with respect to the repair or replacement of any product or parts. In no event shall TACP or THI be liable for consequential or incidental damages.

No person, agent, distributor, dealer or company is authorized to change, modify or extend the terms of these warranties in any manner whatsoever. The time within which action must be commenced to enforce any obligation of TACP or THI arising under this warranty or under any statute, or law of the United States or any state thereof, is hereby limited to 90 days from the date you discover or should have discovered, the defect. This limitation does not apply to implied warranties arising under state law.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state. Some states do not allow limitation on how long an implied warranty lasts, when an action may be brought, or the exclusion or limitation of incidental or consequential damages, so the above provisions may not apply to you.

ATTENTION CANADIAN CONSUMERS:

Canadian consumers are requested to complete the special Canadian "Warranty Registration Form" enclosed, and forward this completed form with a copy of bill of sale to TOSHIBA OF CANADA to "Register and Validate" their warranty.

TOSHIBA AMERICA CONSUMER PRODUCTS, INC.

HEAD OFFICE/82 TOTOWA ROAD, WAYNE, NEW JERSEY 07470
FACTORY SERVICE CENTERS/NORTHEAST: 82 TOTOWA ROAD, WAYNE, NEW JERSEY 07470
MIDWEST: 1010 JOHNSON DRIVE, BUFFALO GROVE, ILLINOIS 60089-6900
WEST: 5490 E. FRANCIS ST., ONTARIO, CA 91761
SOUTHWEST: 1421 CHAMPION DRIVE, SUITE 304 CARROLLTON, TEXAS 75006
SOUTHEAST: 6115 JIMMY CARTER BLVD., SUITE C2, NORCROSS, GA 30071-4607

TOSHIBA HAWAII, INC.

HEAD OFFICE/327 KAMAKEE STREET, HONOLULU, HAWAII 96814, U.S.A.

TOSHIBA OF CANADA LTD.

HEAD OFFICE/191 MCNABB STREET, MARKHAM, ONTARIO, L3R 8H2, CANADA TEL: (905) 470-5400
SERVICE CENTERS/TORONTO: 191 MCNABB STREET, MARKHAM, ONTARIO, L3R 8H2, CANADA TEL: (905) 470-5400
MONTREAL: 1643, NORTH SERVICE RD., TRANS-CANADA HIGHWAY, DORVAL QUEBEC, H9P 1J1, CANADA TEL: (514) 332-6860
VANCOUVER: 3870 JACOMBS ROAD, RICHMOND, B.C., V6V 1Y6, CANADA TEL: (604) 270-8481

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